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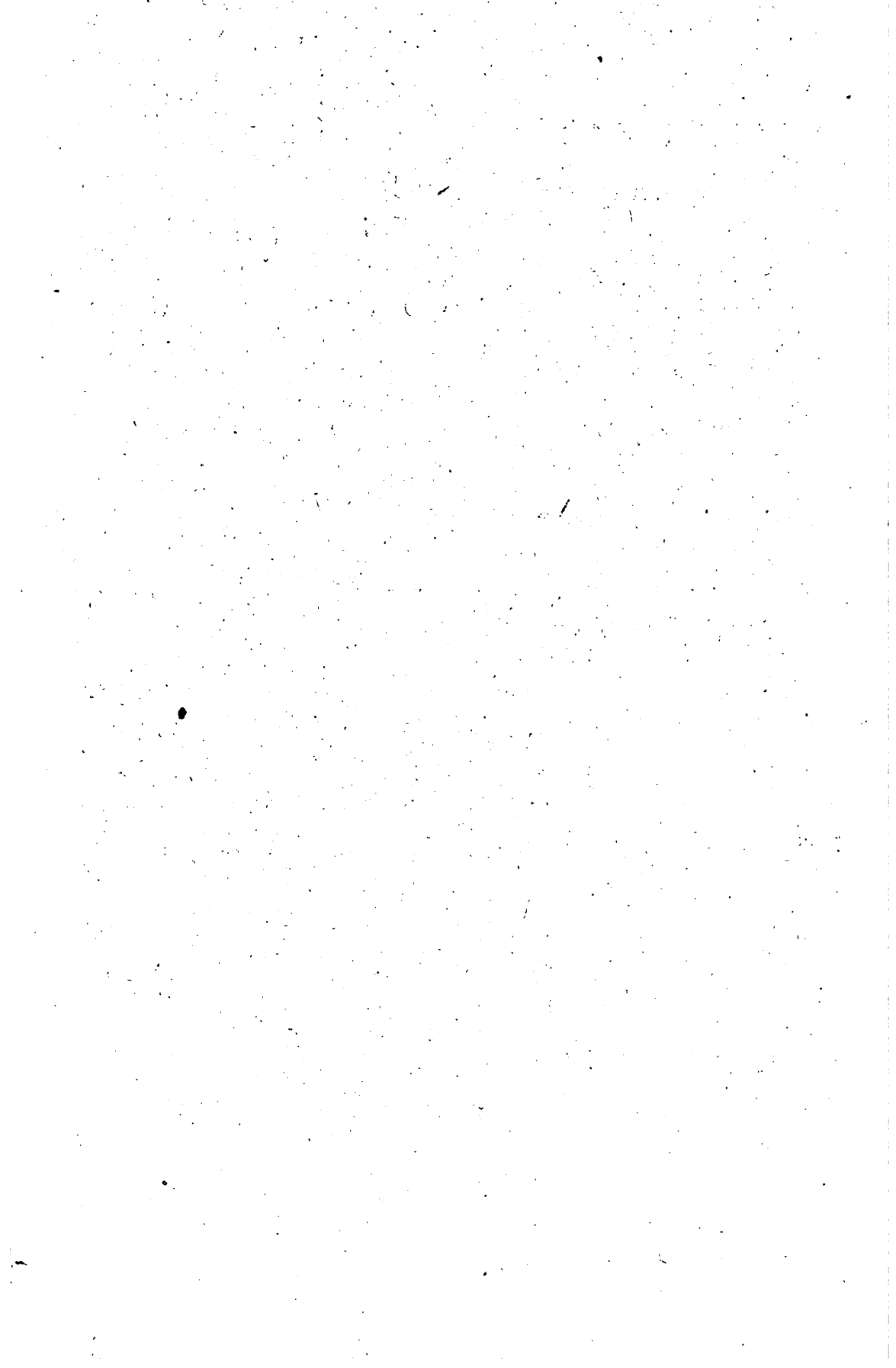
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DR. JOHN NICOL.

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A CLOUD STUDY.

By F. J. Hoxie.

THE AMERICAN AMATEUR PHOTOGRAPHER.

Vol. XIII.

JANUARY, 1901.

No. 1.



By E. W. Huebul.
"YANKEE BOY."

Photographing Snow Scenes.

BY G. H. HARRISON.

ALTHOUGH thinking less of the snow scenes that evoked the request than the judges who awarded them prizes, loyalty to the editors prevents my refusing their invitation to say something about how they were produced.

If, however, I read their request aright, it implied, not that I should say anything about these particular pictures, but rather of how best to photograph snow scenes generally and although I cannot undertake to do that, I shall do my best to tell how I do it.

Before the winter comes, indeed all throughout the summer, I have winter work in my eye, seeing in imagination the various picturesque nooks and corners covered with their snowy garb, and making notes of what I think will make snow pictures, and even the points from which they tell the best. I say "nooks and corners" advisedly, as, especially in snow scenes, I have never seen photography at its best on a large expanse of country.

Subject and point of view already known, I am ready to start when the white robe is at its best, not generally as soon as it has fallen, but after it has time to settle, and especially when the desirable trodden paths have been made. A figure or figures may or may not be necessary, but if they are they have been provided for, as well as suitable dresses and appliances, as nothing is more risky than to trust to chance in the matter of figures in landscape.

No. 1094.

By Andrew Emerine, Jr

"PERFUME WIFTED FROM FIELDS OF CLOVER."

So far, the preparation applies equally to summer as well as winter work, but now comes in three things that considerably differentiate the latter from the former; the hour, that is, the time of day, the exposure and the development. Snow is never as smooth and level as a sheet of still water, and is never properly represented by white paper. It takes, to a large extent at least, the undulations of the ground on which it lies, and if the light falls on it at a sufficient angle, these will appear in light and shade, marked just in proportion to the distance of the sun from the zenith. That means that snow scenes should be photographed early in the morning or late in the afternoon, and the earlier or the later the better will be the effect, provided there be light sufficient.

Then, the exposure should be full, indeed long, and it is here that winter workers generally make their mistake. They see all brilliantly white, the earth reflecting back almost all that it gets from the sky, and think they should expose accordingly; but a long experience tells me that, other things being equal, the snow clad scene will require from 30 to 40 per cent. longer than would have been sufficient for the same view in midsummer. Just why this is so I cannot say; it may be in some way connected with the equally curious fact that a portrait posed before a

white background requires, according to the most reliable authorities, twice or thrice as long as the same posed before one that is black. Be that as it may, I have, to my own satisfaction at least, proved over and over again that a good snow view cannot be made without a much longer exposure than would have been sufficient for the same view when clad in its mantle of green.

Not less important is the development. The object is to get the detail in the shadows and at the same time retain, in the negative, the translucency of the lower lights; and that, the exposure having been sufficient, can be best got by the use of a solution weak in reducer. I do not know that any one developer is better than another; I think not, but the one thing needful is that detail rather than density should be the aim.

But, however perfect the negative may be, however exact the exposure and correct the development, there will still be room for improvement. I have tried many reducers and intensifiers, and while all are more or less satisfactory, find the two "Agfas," the "Agfa-reducer" and the "Agfa-intensifier" suit me best. With a little of each in separate cups and each with its own brush, a few touches will strengthen a light or deepen a shadow, improving the negative to an extent, and in a way so easy that it must be seen and tried to be believed.

I may add that backed plates are almost a *sine qua non*, and for the

benefit of those who have not sufficient confidence in themselves to make formulæ, may say that the following answers very well:

Ortol	10 grains.
Potassium metabisulphite	5 "
Sodium sulphite	150 "
Sodium carbonate	100 "
Water	10 ounces.

When development seems complete the negative may seem wanting in contrast, a want that will be supplied by a few minutes in a similar solution, but with three times the quantity of ortol. In this it must be carefully watched, as it is very easily carried too far, although it is easy to bring it back by general reduction.

Carbon or Pigment Printing.

BY H. BURN-MURDOCH.

[That pigment printing, in one or another of its various forms, has not been more generally employed by American picture makers is a puzzle. It cannot be because of the invisibility of the image till brought out by development, as they are quite at home with the dry plate and the developing paper; nor for lack of instruction, as there are many text books, from any one of which all that need be known may easily be learned. Probably the bugaboo of "double transfer" has had more to do with it than anything else, preventing the single trial, which would have convinced the most sceptical of its simplicity, and even it may be avoided, as will be shown in the following article.]

We have arranged with Mr. Burn-Murdoch for a series of practical articles, which, while they may not contain anything that has not been already said, the instruction will come from an enthusiast, one who has gone through it all, from its inception as a practical process by Fargier, to Ozotype, including employment by the British Autotype Co.—Eds.]

THE editors have somewhere said that the greatest puzzle connected with photography was that carbon had not long ago superseded all other printing methods, and I quite agree with them. It is at once the simplest and the most certain, because almost purely mechanical, and so not subject to the vagaries of chemical action in the hands of those who know little or nothing of chemistry, and influenced by causes not always under control.

And the theory is as simple as is the practice. The so-called "carbon tissue" is simply paper, any kind of paper, coated with gelatine mixed with

"A TOILER."
BY
F. C. BAKER.

No. 1120.

No. 1103.

By Carl C. Distler.

'IN THE HARBOR.'

finely divided carbon or any suitable pigment, and to which is sometimes added a little sugar, glycerine, or other hygrometric material to prevent its becoming too brittle. To this is given the so-called sensitiveness by immersion in a solution of an alkaline bichromate, sensitiveness in this case meaning that the soluble gelatine is then rendered insoluble by the action of light.

Such tissue exposed under a negative will be affected in degrees corresponding with the various degrees of density of that negative, high lights, which are opaque in the negative, remaining completely soluble, half lights permitting the light to penetrate half through the tissue, and so on, to the deepest shadows, which being transparent allow the light to make the tissue completely insoluble.

From this it will be evident that development is merely the dissolving away of the soluble gelatine with its inclosed pigment, an operation in which there is considerable latitude by the use of water at varying temperatures, but which is purely mechanical, almost automatic in its action, and yet gives every degree of the most delicate gradation that is in the negative.

The following are a few of the advantages of carbon printing:

(1) It is permanent in the truest sense of the word; permanent as the pigment selected and the surface to which it is transferred.

(2) It is the simplest of all printing methods, the blue print perhaps excepted.

(3) By it prints may be made in any color and any shade.

(4) The image may be transferred to almost any surface.

(5) It gives finer positives for the making of enlarged negatives than can be produced by any other method.

(6) While for the best results negatives strong and full of gradation, such as were best for albumen paper, are desirable, it will give from any kind of negative better prints and of truer values than can be got by any other printing method.

Although the making of carbon tissue is a simple operation it is better and cheaper, too, to buy than to make; and although it is to be had both in rolls and cut sizes, and comes cheaper in the former, the amateur will be nearer his purpose to get the latter. Gennert, and we suppose other dealers, stock it in some fourteen colors and shades of color, and as variety is better than monotony, it had better be got in "sorted" packets.

Single and double transfer paper are easily made, as I shall show later on, but at first it will be better to get a supply along with the tissue. A bottle of black varnish, a squeegee, a piece of thickish rubber cloth, rubber on one side only, and a few plates of glass a little larger than the intended prints about complete the addition to the equipment in the ordinary dark

room essential to the working of the carbon method of printing. Perhaps I should have added to the above list some kind of actinometer, but I have tried almost all of those little instruments on the market, and like much better one given to me by the late Mr. Sawyer, of the London Autotype Company, more than thirty years ago, and it is so simple that anyone may make it for himself.

The Sawyer actinometer consists of a strip of glass one inch broad and five inches long, covered with layers of a thin translucent paper, which had been coated with gelatine very slightly tinted. The first quarter-inch had only a single layer, the second two, the third three, and so on up to the last, the twentieth, which had twenty, and each was marked in opaque figures so as to indicate the number of layers. Mr. Sawyer covered in this way a $5 \times 7\frac{1}{2}$ inch plate and cut it into seven strips, one of which I have used with perfect satisfaction for all those years. I fitted it into one of two boards that are hinged together like a book and fastened with a clasp. On what may be called the inside of the cover there is sufficient adhesive material, soap plaster, in fact, to hold the paper in position while examining the printing progress.

In addition to the articles already mentioned it might be well also to get a small kerosene stove and small kettle for keeping at hand a supply of hot water, and a thermometer—a convenient kind is the cheap German make with a paper scale hermetically sealed in a glass tube. A small supply of printing out paper is also a necessity, any of the so-called aristo family will do; solio, albuma, or kloro answer equally well for indicating the exposure required for any particular negative.

So much by way of introduction; in my next I shall commence the practical instruction with the preparation of the negative, and sensitizing the tissue.

Photography.

A Paper by Eva Lawrence Watson, read at the November Stated Meeting, Photographic Society of Philadelphia.

THERE are probably no words less understood and more misused than *art* and *artistic*. It is the common use, when a thing is vague, unintelligible, affected, or in some way false, to call it artistic. Much that is ingenious and skillful craft is called art. It would be difficult, if not needless, to make a new definition of art. Tolstoi has rehearsed in his book on the subject all the varying opinions and definitions, and his own expression is the simplest and most comprehensive that I know. So that whether art is

"A WOODLAND ROAD."
BY
O. B. WARREN.

No. 1116.

intellectual or spiritual, beautiful and ugly both, immoral as well as moral, one element in us it must appeal to—the imagination. And it is for this reason that photography has had to develop methods of avoiding the weakness and monotony of its mechanical reproduction of everything within range of the lens—of concentrating the interest in order to provide a new means for making pictures which could rightly be called artistic. The question has never been what is, or what is not, artistic, but whether photography was plastic enough to produce artistic results, and that it is has been sufficiently proven to discount the prophecies of failure from the unhelpful, and the amusing condemnations of the ignorant.

No. 1098.

By C. S. Luitweiler.
"COWBESS."

There is no authority on art to whom to refer for judgment. If, through a picture, you can give to one other person the feeling which impelled you to make it, you have done well, you have found recognition, and if one understands, another will, and another in the course of time. The best things do not meet with general instant recognition.

Photography bears a resemblance to nature in this—the enormous amount of material thrown broadcast on the world, very little of which is fit or expected to survive. An immense lot of energy and stuff are apparently wasted, in order that there may be a very special choice, as the evolution of the creature goes on. It has been very easy to make numberless photographs without thought, but what now is required is special skill, endless patience, and more knowledge and study than most of us have been able to obtain. Then perhaps a master would be able to make two or three pictures and several portraits in a year which would be worthy to live as works of art. I am speaking very seriously of great works. Sketches and studies are part of the daily exercise of picture-

makers, and much more material, interesting and profitable to look at, can be shown which need not be mistaken for masterpieces nor shown as such.

We are suffering just now—we always have been—from influences, and though the influences are better than they used to be, the disposition to imitate proclaims that photography still is young. Perhaps in its youth it could not do better than to imitate good things, but I think it could. It could do better by studying them. The painters enjoy some of our "painty" effects, and misunderstand others. They recognize our imitations, but hurt us by identifying our small resemblances with schools of painting, ignoring our identity, calling a strongly-lighted subject a Rembrandt, a hand and glove means Titian, a long, sweeping line indicates Alexander. Prints are classified as Corots or Constables, Whistlers or Holbeins, and we've been feeling flattered—in one sense we should—but it is a false compliment. In spite of all this the individuality of the man is claiming recognition. This is acknowledged on every side. The personality of the photographer is felt in the trivial French character of Puyo's prints, in the strong, awkward compositions of the Hoffmeisters, and above all the supreme evidence of personality is seen by reflection, for instance, Mr. White's influence, so unmistakably stamped on the charming prints by Mr. Edmiston, shown in this year's Salon. This personality is not to be worked for; it is the inevitable sign of life, the unconscious expression of the man in his work. We look at pictures on the exhibition wall, a Dyer, a Eugene, or a Steichens, and feel the personality of the man through his special feeling or the shape of his idea, and far from our thoughts is the question of whether it is a Voigtlander-lens, Seeds-27x-plate, platinum, or gum-bichromate-print.

Any means that is photo-

No. 1095

By Helen L. Griswold.

"INNOCENCE."

graphic should be used; the skill of the hand in manipulating plates and prints is not illegitimate. Foreign methods, such as working up in water color, are destructive of the purity of the art, as the introduction of gems and tinsel into painting and sculpture, and foreign phrases into a piece of English literature, are acknowledgments of unskilfulness or the disinclination to work.

There is an idea about that we see as the lens does. It is a very great mistake; we do not, either mentally or physically. The eye cannot focus on more than one spot. The lens focuses on one entire plane, and with persuasion can be forced to give equal sharpness to everything within its range, from the distant horizon to the near foreground. The difficulty of avoiding this stupid and uninteresting aspect of things is probably the reason why there has been more successful indoor than outdoor work, although that is due partly to the fact that the light at least can be concentrated in an enclosure. A feeble admission of this difficulty in mechanical photographs is the usual habit of dragging a figure into a landscape which has no sympathy with it, with the firm conviction that it "introduces life," as they say, into something thus acknowledged to be dead. The only reason the figure introduced draws attention from the general monotony is that it is an intrusion, usually a self-conscious one.

I do not mean to say that the indoor work is better than the outdoor work, that is, pure landscape, but there is more good work in which figures are used. I am compelled to say that the worst things done in photography have been with figures, deliberately planned, posed and exhibited as "artistic." The deadly self-consciousness of models, the unfitness of objects and clothes used, and the poverty of imagination on the part of the man-behind-the-camera, gives one a sense that one sees a straight photograph of a tableau, a living-picture arrangement, or the misfits of the grand opera choruses with calcium lights. A painter said to his pupils: "Art is an animal not to be caught by detail." The idea is good enough to be remembered by photographic students. Perhaps the commonplaceness of many photographs is mainly due to the absence of any definite intention at the start. We soak our plates and our paper, but we do not soak ourselves enough in our subject. We should follow up a picture, visit it often in many lights and seasons, carrying it about in our memory to its final completion. We may overexpose our plates, but we cannot get too strong a mental impression.

It is a good practice to *sketch* with the camera, using no plates, but studying on the ground glass, becoming familiar with the disposition of our lens; so that it may not surprise us, finding out and avoiding what is impossible, while it is impossible, studying how to work the camera to get

"THE GOLDEN ROD GIRL."
BY
A. EMERINE, JR.

No. 1119.

our point of view, as well as to adjust our eyes to the lens as to new spectacles. A photographer needs a special training for quickness of perception. It is his advantage to be able to retain by instant exposure of a plate some things which could not or would not enter his mind to conceive, and to do this his judgment and keenness must be constantly under his control. We cannot afford to lose the suggestions of the *happenings*, which, like the conjunctions of some planets, a man may be able to see only once in his life, and in instances where it is some line of beauty, or some expression or sentiment, or intense feeling, there is no way of repeating the effect. But the camera can catch it if the man recognizes what he wants, and by his memory he can work the material into rare pictures. Such material is,

like nuggets of gold, likely to contain much dross, because stuff is there which also happens and is not by choice, and the royal right of elimination must be to dispose of whatever detracts from the value of the thing. Good judgment and a sense of abstract beauty, the realization of the embodiment of ideas in forms and lines, in light and sound, make that quality called "feeling," which is the personality, the "temperament" of an artist, a painter, photographer, writer, or musician.

When it becomes better understood that many false effects, gotten photographically, can be controlled by the skill of the pho-

"ANTICIPATION."

No. 1318

By F. E. Bronson.

tographer, more people will gladly turn to it as a worthy means of expressing their ideas and impressions, and we shall have schools of photography to teach composition and the relation of tone to color, as well as the use of the camera and chemicals and manipulation of prints.

There is one open field yet very little touched by the camera; that is illustration, and I look for great things in that direction in the future. Some good work, but little, has been already done. At present there is something like reciprocity between the picture-maker and

No. 1118.

By F. E. Bronson.

"REALIZATION."

the poets, and in getting titles for pictures it is a question whether the Greek poet conveniently conceived characters which we recognize in our reincarnations, or whether he is the inspiration of our creations.

The opposition through which this new art is pushing itself, the traditions, like the earth which lies above the bursting seed, through which it has to force its way, is a great and beneficial discipline, developing strength and brushing off whatever is superfluous or weak. So much the better if progress is slow. For a last word I would like to quote Mr. Steichen in a recent "brave" and refreshing criticism: "The goal for which we are working is still far, far away, and it seems that each and every man needs contribute towards the element which is to reach it, and which each and every worker believes eventually will, or at least should, be reached."

How I Got and Fitted Up My \$2.50 Lens.

BY R. L. WATERSTON.

IN response to the invitation of the editors, and for the benefit of those whose purses, like mine, are not very heavy, I have pleasure in telling how I got and fitted up a lens with which I have been able to do better work than ever before with lenses that cost ten times as much.

After consulting all the lens makers' lists that I could lay my hands on, I sent \$2.50 to the Gundlach Optical Co., of Rochester, N. Y., and in return got a single unmounted lens of, nominally, 12 inches focus and $1\frac{3}{4}$ diameter, although the focus proved to be $12\frac{1}{2}$ inches. A search in the domestic medicine closet resulted in the finding of two round bottles, one exactly an inch and three-quarters, the other a little less. These I used as mandrels on which to make paper tubes, using manila paper, slightly damped. When dry, the tubes were as hard as if made of wood or iron, and the larger was trimmed down to two inches and the smaller cut into rings about a quarter of an inch wide. One of the rings was glued into the end of the tube, the lens pressed down on it, convex side out, and another ring pressed close down on it which keeps it perfectly firm in position.

A third ring was glued in about half an inch from the front, as a seat for the stops, of which there are only two, $f/16$ and $f/22$. They were made out of a sheet of hard rubber that I happened to have, bored with a brace and half and three-quarter bits, and enlarged to the exact size by a countersink. They were kept in position by a wire ring sprung in and out, as required. The cam was made of a slice of a larger tube of cardboard, and after blackening inside and covering with cloth outside, it looks almost as well as if mounted in brass in the ordinary way, and certainly works as well as any lens that I have ever tried.

How to fit it to the camera was at first the puzzle, but a friend who is strong in the turning persuasion came to the rescue. He turned a flange, giving it what he called an "O G" form, into which the tube fitted tightly, and which was screwed to the camera front in the usual way. Stained to a mahogany color, it looks as if made as a means of employing a lens a little too long for the camera, and no one seeing it as I go along could suppose that the lens that does such work, work that has been medalled several times, cost only \$2.50.

Nor has it anything to do with the oft quoted saying that "not the lens, but the man behind it, etc.," as for all pictorial purposes the lens is quite as good as the best and most costly lens that is made.

Notes.

THE INCANDESCENT GASOLINE LAMP.—It is somewhat strange that while writers on the other side are complaining that they cannot get incandescent lights for the lantern without gas, the first paper I take up contains three advertisements from companies making just such lamps on this side; and they are used all over the country, in every little village into which either the ordinary gas or acetylene has not been introduced.

The lamps are made in all forms and for all purposes, including student, hanging, table, and even "outside," and, with a good mantle, and good mantles can be got for twenty cents, they give a light that for brilliance must be seen to be believed.

One of the United States Gas Lamp Company's lamps hangs from the ceiling of the room (18 x 18 feet) in which we write, and a newspaper can easily be read in any corner, and that, according to statement of the company, at a cost of about five cents per week, or an outside lamp, giving a light of 500 candle power, at a cost of fifteen cents. The student lamp could easily be fitted into the lantern, but bright as the light is, we fear it would make but a poor job on the screen. The mantle flame is altogether too large, and if cut down by a diaphragm would not be sufficiently intense to give a brilliant disc of over two or three feet.

For the lantern the incandescent mantle has been tried and found wanting, and those who cannot get either electricity or lime should have recourse to acetylene. We speak from experience when we say that for what may be called domestic exhibitions, shown on a screen of any size under six feet, and with a good generator and a suitable burner, nothing can excel acetylene.

AMMONIUM SULPHATE.—As is well known, this excellent reducer, where a trace of hypo is left in the negative, is apt to act irregularly, and N. Schönchen proposes to get over this difficulty by taking advantage of the fact that when the persulphate is alkaline it does not exert its reducing power, but does act on hypo and oxidize it. A 5 per cent. solution of ammonium persulphate is mixed with a few drops of strong ammonia solution until it is distinctly alkaline, or turns red litmus paper blue, and the well-washed negative is placed in this solution for a few minutes. Afterwards dilute sulphuric acid is added, drop by drop, to the liquid, until it becomes distinctly acid, or turns blue litmus paper red. After it has become acid, the reducing action begins and proceeds in its characteristic

way, and when it has gone far enough should be stopped by immersing the plate for five or six minutes in a 5 per cent. solution of sodium sulphite.

SACRED PHOTOGRAPHY.—In the November *Photo-Era*, which by the bye, has absorbed the *American Journal of Photography*, there appears a half-tone engraving of "Jesus and Mary," as represented in the Oberammergau Passion Play. Taking it for granted that it is genuine, although we have understood that photographing the play or the characters was not allowed, the grouping and the arrangement of the drapery are a striking evidence of the artistic taste of those peasant people, but we must confess, and we do it as a duty to our readers, that we do not like photography of such sacred subjects. We are far from wishing to measure the corn of other people by our own bushel, but cannot help thinking that to the pious and reverent mind there is or should be something shocking in the representation by photography of the Saviour of the world; nor can we help expressing a wish that none of our readers, for whom we have a kind of fatherly feeling, will venture on such debatable ground.

THE KROMSKOP.—Just a year ago, in writing an account of the Kromskop, we recommended it to the consideration of those who desired to make an acceptable Christmas gift, and now, after another year of almost daily enjoyment of it, and remembering the keen delight of those to whom we showed it at our summer home, we, more strongly, if possible, make the same recommendation. Those who have not seen the beautiful instrument should do so at once, as it needs only to be seen to be admired, and without being seen it cannot be understood or its beauty even imagined. The Kromskop Company have opened a branch store at 18 West Thirty-third street, New York, under the charge of Mr. C. Burr McIntosh, who will have pleasure in showing it to visitors, and we hope those of our readers who have not seen it will take advantage of the opportunity.

THE TRAILL TAYLOR MEMORIAL LECTURE.—We learn from our British contemporaries that, as was to be expected, Mr. Ives has achieved a very decided success in his lecture on three color photography. *Photography* says: "Right through the whole address the practical man, full of his subject, showed itself, and a difficult topic was handled in a masterly manner. If the memorial lecture every year is to maintain the high standard of former ones, a standard which Mr. Ives has raised, were that possible, it becomes difficult to see whence the lecturers are to be derived. We can only look to the time to produce the man." Through the kindness of the assistant secretary of the Royal Society we hope to reproduce the lecture.

Simple Pigment Printing.

BY H. D'ARCY POWER, M. D.

CONSIDERING, as we do, that carbon or pigment is at once the simplest and the best of all printing methods, we have tried to keep our readers advised of every apparent improvement that was suggested, and therefore we have pleasure in extracting the following from *The British Journal of Photography*, expressing at the same time our regret that the worthy doctor, who hails from San Francisco, did not communicate his very excellent method to one of the journals nearer home:

To obtain an unreversed carbon print without transfer of any kind, and to do this without any greater trouble than is involved in the production of a silver print, is what I purpose to describe.

More than a year ago I experimented on the printing of carbon tissue through a film of transparent celluloid, and found that no perceptible difference of definition resulted from its interposition; on the contrary, that the image was rather benefited than otherwise by its use. In these experiments the carbon tissue was squeegeed direct from the sensitizing bath on to the celluloid, the outer surface washed clean, and, when dry, the tissue printed through the celluloid, and, after development in the usual way, the celluloid was backed up by squeegeeing it in optical contact with paper, or by coating it with a layer of paint. In this way I obtained very beautiful prints, having a highly polished surface, that elicited much praise from those who love that kind of a thing, but which, on that account, did not please me. Some time elapsed before it occurred to me that celluloid with a ground-glass surface could be printed through, but one day I tried the experiment, and I was not a little astonished to find that the image developed nearly as sharp as with unground celluloid. This solved the whole difficulty of direct printing. I coated a sheet of ground-glass celluloid with the usual gelatine and pigment coating mixture. To sensitize it it was only necessary to immerse it in the bichromate solution and hang it up to dry. Printing was done as with silver paper, no safe-edge being required. Development can be proceeded with immediately, the safe-edge being unnecessary, and the moistening and pressure not needed. Direct from the printing frame it passes into the hot water, is washed up, dried, and backed. The backing may consist of paper of any desired tint or grain, squeegeed into optical contact with the print by means of a solution of gelatine, or it may be paint ground in varnish, such as may be bought anywhere. By judicious backing, prints of exceeding beauty may be obtained. The ground celluloid at present on the market gives a surface slightly more matt than is desirable for small subjects with fine details.

This, however, may be easily reduced to any extent desired by rubbing the matt surface with a mixture of one part of ether in eight parts of alcohol. I expect to soon obtain from the makers a celluloid with a more finely grained surface; and, when this is on the market, and the Elliott or Auto-type Company coat the same with pigmented gelatine, carbon printing will be the simplest process in existence. Let me here sum up the advantages of my method of working:

First.—Tissue, after sensitizing, dries flat and smooth.

Second.—Requires no safe-edge.

Third.—No transfer and subsequent waiting prior to development.

Fourth.—No second transfer to obtain correct position.

Fifth.—A surface that can be readily spotted, retouched, offensive high lights toned down, or painted out, or the whole picture tinted as a crystoleum.

Sixth.—After the picture is produced, the power of choosing the tint and apparent texture of the surface it shall seem to possess.

Seventh.—A surface that is indestructible and may be washed, thus allowing of framing without glass, whereby the purity of tint of the print is spared the modifying effect of color in the glass.

Against these many advantages the only added inconvenience is the trouble of coating the celluloid.

Until celluloid coated with pigment can be bought, the worker desirous of using this process may choose one of three courses.

First.—He may coat the celluloid himself, which is a little troublesome, as it is more difficult to handle than paper.

Second.—He may sensitize ordinary carbon tissue and squeegee it to the smooth side of the frosted celluloid. If he follow this method, he will need to take care that no air bubbles, even the smallest, interpose between the tissue and the celluloid, and he will also need to be careful that as the tissue dries it does not separate from the celluloid surface before printing, or loss of definition over the detached portion will result.

Third.—Tissue may be sensitized and printed in the ordinary way, transferred to celluloid, and then backed up. This method, while the same in all respects as single transfer, gives the correct position without a double transfer. It permits of choice of backing, and has the advantage of absolute sharpness of definition. Until coated celluloid is placed upon the market it will hold the first place with the general worker, and is the method I at present employ.

I have not found that any coating of the celluloid with chromitized gelatine is necessary, but some care is required in squeegeeing to the final support, that no air bubbles intervene. They will cause stars on the print.

Spotting and retouching is best done with oil colors, and the power of modification is almost unlimited.

Such in brief is the process I would urge all carbon workers to at least try. The facility of working, and the beauty and permanency of the print, will undoubtedly assure it a prominent place among photographic printing methods.

Lantern Slides from Old or Spoiled Plates.

THE following communication from Charles E. Benham to *The Photogram* will interest our readers who have old or accidentally exposed plates, especially as, however unlikely it is, we have tried it and made excellent slides on plates that have lain on a shelf in a well lighted laboratory for at least five years:

"Every photographer has at times stale plates on hand, which he is unable to make use of in the ordinary way, and it is worth knowing that out of such 'waste' material excellent lantern transparencies may be made in an exceedingly simple manner. A new plate will do equally well, but not any better than a stale one. If a stale one is used, however, the plate to be employed should first be well exposed to the light, until the original greenish tinge of the film gives place to a reddish gray. It does not appear to matter how long it is exposed, and if it has been in the daylight for weeks so much the better. Immerse for a few minutes a plate which has been thus sunned in a strong solution of hydroquinone. The vigor of the lantern slide will be largely dependent upon the strength of the solution, which should be nearly saturated. This bath renders the film sensitive to light, and the operations should therefore be carried on in a dark room, or by gaslight. Stand the plate on end in the dark to dry. It is convenient to do the sensitizing at night, and by morning the plate will be ready for use. Print on to it, by contact under a negative in the printing frame, exactly as in the case of an ordinary print. To examine it, lift half the back of the printing frame, and the progress of the printing can be sufficiently seen through the glass. Print until the details are fully out—the image will be a brownish purple. When the printing is complete the frame must be taken to the dark room, and there the lantern slide must be removed and placed in hypo solution until the unaltered salts are dissolved out. Wash in running water exactly as for an ordinary negative, and the lantern slide is complete. If a fresh plate is used instead of an old one, the preliminary sunning is unnecessary. The fresh plate is more sensitive than a sunned old one. Pyrogallol can be also used. A little citric acid should in this case be added to the solution."

Imogen as a Developing Agent.

BY F. GAEDICKEL.

THE Actien-Gesellschaft für Anilin-Fabrikation, of Berlin, Germany, has added to the series of organic developers a new one, which has been put on the market under the name of imogen. It is in the form of white powder and is easily soluble in water.

It may be asked whether it is necessary to increase the number of developers recently brought out. But seeing that one person obtains the best results with rodinal, another with eikonogen, others again with amidol, metol, hydroquinone or pyro, it must be acknowledged that the employment of a certain developer is a matter of taste, governed entirely by the individuality of the operator, so that there never can be too many developers, because every one has its particular properties and peculiarities, and therefore the introduction of imogen is justified.

The qualities of imogen were at first tested by means of the sensitometer, because by this a definite numerical result can be obtained, which is evidently superior to judging a negative obtained by merely exposing a plate on an ordinary landscape or other subject; firstly, because the operator has a definite amount of light, and secondly, because the character of the image can be better examined by the successive density of each square recorded.

The normal exposure for a sensitometer scaled with 1 to 16 layers of tissue paper was 120 "meter candles" seconds, *i. e.*, an exposure of 120 seconds was necessary at a distance of one meter from a standard one candle power. The number 16 thus obtained indicates a highly sensitive plate, numbers 12 and 13, on the other hand, plates of medium sensitiveness. The plates employed were of medium sensitiveness.

The preparation of the solutions is very simple.

Solution A is prepared by adding to 10 oz. of water and 1 oz. of soda sulphite crystals, $\frac{1}{3}$ oz. of imogen. If anhydrous sulphite is used, take only half the quantity prescribed of the crystals. These experiments were with crystals.

Solution B is prepared from ordinary crystallized washing soda, which is dissolved in double its quantity of water.

It is better to prepare both solutions with hot water, so as to expel all the air, thus rendering the solutions more stable.

The developer for normal exposure consists of solution A 1 part, to which half a part of solution B is added.

If the solution is freshly made and the plate is correctly exposed, the image appears in fifteen seconds and is fully developed in four minutes.

The sensitometer image was developed after normal exposure of 120 meter candles seconds. The numbers 1 to 3 showed a dark shade, but could not be distinguished. The numbers were legible upon 15, but could only be copied up to 13. Thus there were eleven numbers which could be printed from. The density was very heavy and the color of the deposit was a warm black.

To test for under-exposure half the normal exposure was given *i. e.*, 60 meter candles seconds, and the developer was modified by diluting solution A with an equal quantity of water and half the quantity of the soda solution, for example:

Solution A, 1 oz.; water, 1 oz.; solution B, $\frac{1}{2}$ oz.

The image appeared in forty seconds and was developed in four and one-half minutes. The sensitometer No. 12 could be copied, but No. 1 contrasted well against No. 2, so that twelve shades able to be copied could be counted. This shows that better negatives will be obtained by scant than by abundant exposure.

For over-exposure the plate was exposed double the time given for correct exposure, *i. e.*, 240 meter candles seconds, one drop of potassium bromide 10 per cent. solution being added for every cub. cent. of the developing solution.

The image appeared in thirty-five seconds and was fully developed in four minutes. The number 12 could still be printed. The numbers 1 to 3 had nearly the same appearance, so that there were ten grades that could be printed, but the image was less soft and poorer in color. The abundant addition of potassium bromide, while degrading the finest impressions of light, did not retard development so much as was to be expected. A very large quantity of potassium bromide can therefore be added to imogen.

A special advantage was obtained when by normal exposure the development was made up with increased quantity of alkali and potassium bromide, namely $1\frac{1}{2}$ parts A and 1 part B, with 60 drops solution of potassium bromide to every 55 cub. cent. of solution. The image appeared in forty seconds, was developed in five minutes and showed a gradation of Nos. 1 to 11 or 12, the great amount of alkali having a favorable influence upon the designs in the high lights.

In comparison with rodinal, imogen brings the image out better and has a more powerful action. The character of negatives developed with imogen is similar to those obtained with hydroquinone.

The new developer works very brilliantly. Even with plates exposed on landscapes during dull and rainy weather negatives full of contrasts were obtained.

If the negative is too dense, treatment with persulphate of ammonia

will reduce it. This ought to be done immediately the fixed negative has been washed, the advantage being that the density is reduced and at the same time any remaining hypo will be eliminated, so that after this process a short washing will do.

The following deduction can be made from this examination of imogen:

1. Imogen is a very energetic and active developer.
2. It produces brilliant negatives.
3. The deposit is of good density.
4. It is especially for use for short exposures.
5. It does not affect the fingers.
6. The time of development is normal, even if an abundant amount of potassium bromide had been added.
7. The best results are obtained if development is made slower by diluting the developer with water, or if a large amount of alkali is employed in addition to potassium bromide.

A New Method of Intensification.

BY FRITZ HANSEN.

INTENSIFICATION has long been regarded as an important means of improving the negative, and various methods have been employed, all more or less troublesome and unsatisfactory. The most common was bleaching by mercuric chloride and blackening with ammonia or some other substance, but it was complicated and uncertain, and, in many cases at least, far from permanent.

The ideal intensifier should be in the form of one solution, preferably a concentrated solution, needing only diluting with water to be ready for immediate use. This want is supplied in the Agfa-Intensifier manufactured by the Actien-Gesellschaft für Anilin-Fabrikation, Berlin, Germany.

This solution keeps indefinitely, and intensifies with only one manipulation, giving a gray black color. A second blackening is quite unnecessary, as the image will obtain the right color at once, without stains and without blotches or pinholes. It is only necessary to dilute the solution, as purchased, with ten parts of water, and into this the negative to be intensified is immersed, the dish being rocked meanwhile. In this bath the plates remain until the desired grade of intensification is arrived at, which is easily judged by transmitted light. In two minutes intensification has commenced, and in a good many cases will prove sufficient. The maximum of intensification takes place within the first ten minutes, after which the image becomes gray white, and becomes more or less reduced.

Sufficient intensification being attained, the plate is to be washed for five to ten minutes and dried.

Considering that the process is certain and so simple and rapid, Agfa-Intensifier can certainly lay claim to be an ideal substitute for all methods of intensification previously employed.

The Illustrated Press Bureau, Limited.

THE editor of *The Photogram*, always restless in the interest of photographers, has added one more to the many good things that he has done or is doing for them, as the following letter will show :

The Editor of THE AMERICAN AMATEUR PHOTOGRAPHER :

DEAR SIR: I shall be greatly obliged, if you feel that the subject of the enclosed is of sufficient interest to your readers, if you will give it a paragraph in *THE AMERICAN AMATEUR PHOTOGRAPHER*. I have long taken an interest in fostering the connection between photographers and the illustrated press, and during the past few years have introduced many photographic workers to editors prepared to purchase their rights. Within the past few months experience gained from the correspondence in connection with "An Index of Standard Photograms," has shown me how many photographers, especially those in the British Provinces and abroad, find it difficult to get into profitable touch with the illustrated press. I have, therefore, every reason to believe in associating myself with Mr. Robert McClure and Mr. Sibthorp, who already have extensive connections (as literary agents), with the illustrated press, both in Britain and America, that we may be able to establish an agency which will be of great use to many photographers, as well as to editors using illustrated matter.

Yours faithfully,

THE ILLUSTRATED PRESS BUREAU, LTD.

H. SNOWDEN WARD.

From the prospectus accompanying the letter we learn that while the Bureau will be of especial interest and benefit to photographers living in or within an easy distance of London, its benign influence is intended to extend to every part of the civilized world.

Briefly, the Bureau is intended to act as an agent between photographers who have subjects suitable for reproduction in the illustrated press, in book illustration, etc., and the editors and publishers of illustrated matter. It proposes to do this in many ways; by submitting suitable photographs that may be sent to it to likely editors and publishers; by keeping on record such photographs as may on a sudden become interesting; by having on its books the names of photographers all over the world who are willing to take press commissions, etc.

There are few photographers, either amateur or professional, who do not at some time make a negative, prints from which, either then or at

some future time, will have a reproducing value; and hence every one who can turn the camera to good account should send to the Illustrated Press Bureau, Ltd., 10 Norfolk street, Strand, London, W. C., for a copy of the prospectus. The time has gone by when an amateur loses, if ever he deserved it, the honorable title, by selling as many of the productions of his camera as he can.

Words From the Watch Tower.

BY WATCHMAN.

WHO would have thought that photography would ever be called to the help of the recruiting sergeant to fill the ranks? But so it is, and he finds it answers his purpose admirably. A permanent cinematographic exhibition has been established in a large hall in London, showing in a most attractive manner the life of a soldier, from its inception till the time, when, drill complete, he leads an easy and almost idle life, the life—as the sergeant has it—of a gentleman. Several touring companies are sent through the country, each accompanied by a sergeant, and it is said that the success has been wonderful.

* * *

Mr. Newcomb has let the cat out of the bag as to the author of "A Smiler," a somewhat coarse, but amusing skit on the Chicago Salon that went the rounds of some of the journals on this side, and even had the honor of being copied into one or more of those on the other side. I dislike the eccentricities and absurdities of some, perhaps most, of the new "cult," but it should not be forgotten that it began as a protest against a state of photography that was simply lamentable, and it is but human nature for the proselyte to let his zeal outrun his discretion. They, or most of them, are on the right road and will come to their sober senses by and bye, but in the meantime it is hardly fair to include all who have had a hand in the revolution in the same condemnation. Mr. Newcomb, in the article already alluded to, couples Keiley and Stieglitz as leaders in the new school, as if they were in any sense on a level, while the fact is that the work of the latter has been admired by all classes, wherever it has been seen, and is as far above the work of the other, and as free from eccentricity as night is from day. Praise the "usual thing" of the professional as much as you like, friend Newcomb, but in dealing with the other, and especially when it is the better thing, be just; and surely there is neither justice nor mercy in coupling Stieglitz with Keiley.

In the same "Chat Here and There" Mr. Newcomb tells the following story, which almost beats my favorite one, as indicative of the extent to which ignorance or stupidity in relation to matters photographic can go: "A man wrote me that my backing was no good at all, and had spoiled a dozen plates for him. He had applied it as directed, he said, and had scarcely been able to find a vestige of an image on the plate, which, however, was terribly streaked. I asked for a sample negative, and, would you believe me, that chap had been putting backing, *backing*, mind you, on the emulsion side of the plate. It seems beyond belief that such gross ignorance could be possible, yet the circumstance can be verified. If there are many like him I would suggest to our editor that he purchase some platinum type and asbestos paper and I'll conduct a department especially for such people. The type won't melt so easily as lead, nor the paper take fire, if some well-chosen, forceful language be used, that'll sink in in such cases."

Mine has been told before, but it will bear telling again: A man of apparently average ability—and he had been a bookkeeper in a large commercial establishment for years—came to me for practical instruction in photography, and I did my best to teach him all that it was necessary to know, spending one hour per day for at least a fortnight. On the winding up lesson he brought all his outfit, and, unaided, produced a mounted print, from exposure to burnishing, it being the time of wet collodion. He went away highly pleased, leaving me in the same state of mind, with a fee considerably larger than I expected.

Two days later he returned in a very different mood, more than hinting that I was no better than I should be, and that I had kept back something that I should have told, either with a view to another fee, or that there was some secret that I wanted to keep to myself. He had done, he said, just exactly as he had before me, and everything went right till it came to the printing, but the frame had been exposed in the window, first in the shade for an hour, and then in the sun for the whole of the day, and at night the paper was as white as when placed in the frame.

We went down to the laboratory and repeated the last lesson, step by step, till we came to exposing the printing frame, and then the mistake was discovered—he *had laid the frame face down*.

* * *

I had an idea that the editor said somewhere that the photographer does not know when a plate is affected with halation, and to judge from a letter in the *Professional Photographer*, there is at least one who does not. Here follows his letter, but in mercy we withhold both name and address,

as he will know better some day, and I would not hurt the feelings of a mouse, far less a man.

DEAR SIR: After reading Mr. Newcomb's article in last issue I took some drop black and painted the film side of an old negative. This I take, after putting my dry plate in its position in the plate holder, painted side next to the back of the plate to be exposed, when, "*presto*," I get all the results which he claims in his article, without any of the muss or time spent. Lampblack and thin paste also make a good coated plate. By this method of simply clapping the painted plate back of the one to be exposed, we can get those grand results.

You are at liberty to publish the above if you think the fact worthy of space in your valued journal, for the benefit of photographers.

* * *

Doctors may well differ on questions that are dark, and on effects that may have different causes, but surely teachers of photography should see eye to eye on such an easily settled question as the effect of the background on exposure. But they don't. In a recent number of *The Camera*, Felix Raymer, speaking of home portraiture with a black background, said it required an exposure of six seconds, but if the ground had been white two or three seconds would have been sufficient. Then, in *The British Journal of Photography*, Harold Baker, one of the best known of English photographers, is reported to have *shown*, at a meeting of the Croydon Camera Club, that a figure posed before a white background required thrice the exposure necessary for one before one that was black.

* * *

My "compliments of the season" were crushed out of last number for want of space, but it is not yet too late to wish all those who read my maunderings "A Happy New Year." May they see many of them, and each better than that which went before.

"Per Cent." Solutions.

The photographer occasionally comes across a formula for certain quantities of solutions, the strength of which are given in percentages, and although those of 10 per cent. have been so well threshed out as to be very generally understood, he is frequently pretty much at sea as to how to deal with strengths above and below that.

The following method, given by Mr. E. W. Newcomb in a recent number of *The Professional Photographer*, while not quite correct, is near

enough for all practical purposes, and is simplicity itself. It is to multiply the percentage by five and dissolve that quantity in an ounce of water. Thus, for a 3 per cent. solution, $3 \times 5 = 15$, fifteen grains to the ounce, or 15 per cent, $15 \times 5 = 75$, seventy-five grains to the ounce. With high percentages the material should be placed in the empty measure and water added up to the ounce mark.

Our Portfolio.

Communications for the editors, pictures for criticism (only one print at a time) and apparatus and material for examination, should be sent to Dr. John Nicol, Tioga Centre, N. Y.

1084. A. E. MERGENTHALER.—“Maud Muller.” We like this better than most of your recent work. It is better exposed, although a little more would have been an improvement; its simplicity appeals to us, as does its breadth and strength, and it only needs that something, more easily felt than described, but which gives life to the dead, to make it a very decided success.

1085. G. I. POWER.—“Five o’Clock Tea,” two men apparently trying to boil water in a tin pail on the end of a stick, is not a success. The figures are too evidently posed and too wooden, and there is no suggestion of a fire below the pail. The photography, so far as it goes, is good; but there is not a trace of a suggestion of what is conveyed in the title.

1086. N. E. ARNOLD.—“On the Delaware Canal” has been taken from an unsuitable point, or in such a way that the man and horse seem less than half their natural size, and the former, small as he is, is so evidently “standing to be took” as to be almost ludicrous. The composition also is faulty from its lopsidedness, the large mass on the right having little or nothing to support it on the left. It is a good subject, but should have been from a point much nearer, and, for such a small picture, better definition would have been an improvement.

1087. W. H. S.—“A Wet Day” is an attempt at impressionism a little overdone for such a small size, but on the whole fairly successful. Arrangement and effort are commendable, and by those who like this style the execution would be considered satisfactory, but although we prefer suggestion rather than depiction, we hardly care to have to guess so much.

1088. VERE GOULD.—“The Novice.” We are glad that this is only a make-believe, as we should have regretted the loss to the world of such a lovable face, even if the gainer was the church. You have made a success of a difficult branch of photography, and credit is due equally to artist and model. Pose and lighting are so admirable that we cannot suggest an improvement, and we shall have real pleasure in reproducing it.

1089. G. F. COOMBER.—“Among the Mountain Pines.” The title is a misnomer, as two or three trees by the wayside can hardly bear it out, especially as the mountains are seen in the distance. It is a good subject, well selected, with only one serious fault—short, very much too short, exposure. Road and grass are almost white, and the sky is altogether so, as also is the foliage wherever the sunlight has fallen on it.

Study carefully the leading article in our August number, as, judging from this, you only need to expose sufficiently to make excellent pictures.

1090. A. G. GRAFF.—“Fountain and Pond” is a good example of the record of fact phase of photography, but has no claim to the pictorial. The reflection of the fountain in the water is a mistake; a stone thrown in just before exposure would have given you a much finer result, and a little more exposure would have lightened up the all too dark shadows and the equally dark water.

1091. HELEN L. GRISWOLD.—“Requiem.” We confess to feeling a little proud of your progress, this being an advance on anything you have hitherto sent. A muffled figure with bent head stands in a dreary country burying ground, low enough in tone to suggest the gloom of evening. The headstones are few enough to suggest the loneliness of those who rest beneath them, while the contrast between the two tall monuments and the smaller stones repeats the oft-told tale of the leveling of the tomb. Nor are the only two trees without their story. The one that, through age, is broken off at where the branches start seems to say that here we have no abiding city, and that it is appointed for trees as well as men once to die, while the leafless branches of its younger companion say, with equal clearness, “He is not dead, but sleepeth.” The lines of the figure are perfect, and we can almost hear her pouring from her heart the well-known lines, “Requiem æteham dona eis, Domine”—give eternal rest to them, O Lord.

But we like the picture better than we like the prayer, if it is to be taken literally at least, and happily the picture suggests something better. The spot of high light a little above the horizon seems to suggest a rising from that rest, a going higher to a brighter and better life, and should bring comfort to the singer of the requiem. But the picture has one little fault. The ancient tree is too nearly vertically over the head of the figure, near enough to be a fault, and it shows how easily one may overlook a thing that, however little, is large enough to do considerable damage. Pictures are not made by rule, but nevertheless it is a good rule never to place anything vertically over the head of a figure. We shall have much pleasure in reproducing “Requiem.”

1092. D. H. SWILER.—“The Lock Keeper’s Home” is almost panoramic, probably taken with a very wide angle lens, but a fine subject very well arranged. Pictorially, we have nothing to say against it; indeed, it is more pleasing than such wide angles generally are, but from a photographic point of view it is a failure. It contains neither light nor shade, being all over gray, without a trace of contrast, and the foreground, a sheet of water, is simply white paper. Subject and arrangement are so good that it would be well worth trying again, taking care to work for contrast both by exposure and development.

1093. W. E. COGSWELL.—“A Study in Black.” We hardly know how to interpret the last paragraph of your letter: “No doubt it will be again, the exposure has been too short, etc.” We can hardly think that if you really thought it was under exposed you would have sent it, knowing, as you must do, that we have neither time nor space to tell our readers what they already know, and it is equally difficult to believe that you do not see that the print is from a very much under-exposed negative. It is a colored boy laughing, very good in every respect except in the important quality of values, and they are so false that the one side of the face is as white, indeed far whiter than the face of a white man ought to be, while the other side is simply blackened paper, while the shadows, especially those that should be only half dark,

such as that under the lapel of the coat, are as black as the black side of the face. And the pity is all the greater because otherwise the picture is very fine, and one that we shall have pleasure in reproducing. You do so well in every other way, that we earnestly urge you to turn over a new leaf in the matter of exposure, and never forget that the most important feature of a picture is true values, and that they cannot be got without sufficient exposure.

1094. ANDREW EMERINE, JR.—“Perfumes Wafted Back from Fields of Clover.” We hardly know what to say about this. Subject, arrangement, intention, and even the placing of the figures, all seem right, and yet it is not satisfactory. For one thing, it is neither figures with landscape nor a landscape with figures, but something between, and something not so satisfactory. Then both sky and landscape are rather more gloomy than would have been chosen by two white waisted girls for a ramble in the fields, a very considerable part of the latter being as black as the black skirts they wear. Such a subject should be sunny rather than gloomy, and the shadows here are blacker than ever natural shadows were, even in the dullest of dull days. See page 4.

1095. HELEN L. GRISWOLD.—“Innocence” is not quite up to your recent efforts in this direction; indeed it does not rise beyond the dignity of a portrait, but it is a very fine example of portraiture, as well as of photographic technique. In the expression of emotions or the suggestion of qualities, the model has as much to do with it as the artist, or at least the model must possess the ability of grasping and reproducing the ideas of the artist, and that is what has not been done in this. The longer we study the face the less are we able to suggest what has been passing through her mind while she sat before the camera; and that is not as it should be. In other words, the first step in such work is to train your model, train her before the camera that she may get accustomed to it; talk of subjects that will bring up the desired expression, never forgetting that one picture, when it is really good, is worth the work of many days, and the model once trained will always be ready to respond to any call. We reproduce it on page 13.

1096. F. C. BAKER.—“November Evening” shows your usual tendency to overprint, but in this case is none the worse for it. It is a good example of how little is needed to make a picture. Two shocks of maize, a barn, and a few little more than outlined trees, but they unite in telling a story both satisfactory and easily read. We like the little picture and shall have pleasure in reproducing it.

1097. O. E. KENNEDY.—“Devotion.” You have a misplaced confidence in Uncle Sam’s messengers, and consequently your picture came broken in many places, its mount being of those that will not bend but break. Enough, however, is left to show what it aims to be, and what is is. Much that was said to 1095 applies equally to this, but its technique is not so good, the lighting being too hard and the shadows far too black. Then, the arrangement of the drapery is too mechanical, the lines being almost parallel, showing unmistakably the handiwork that so placed them. Drapery should always suggest nature, never art. Again, the modern method of arranging the hair is fatal to conveying the emotions. We have been accustomed to see the work of the painter in that direction, and he always goes back to the simpler dress and methods of older times, and we *feel* that there is something wrong or wanting in any attempt to reproduce them with modern attire. That you have realized this is evident from the fact that you have draped the bust, but why did you not see the incongruity of the coroneted and beribboned hair in conjunction with that simple draping.

1098. C. S. LUITWEILER.—“Cobweb.” This is an example as rare as it is beautiful, and the most perfect that we have ever seen of the value of photography in the reproduction of the works of nature. We reproduce it on page 12.

1099. S. E. ACKERMAN.—The unnamed print, although a fairly good subject, with suitable foreground and fine suggestion of atmosphere, is rendered worthless by the almost horizontal fence running right across the middle distance. Such an arrangement of a series of parallel lines would be fatal to any composition.

1100. D. STRICKLAND.—“Harvesting in California” will be, to those in most parts of the world, a curiosity, as nowhere else, we suppose, than in our “West,” could a team of thirty-six horses be seen drawing a harvester that cuts down the standing wheat before it and delivers it sacked ready for the market behind. We shall reproduce it, not as a picture, although it is an excellent photograph, but as the curiosity that it is, and as a means of showing our friends across the water that we really *can* do wonderful things. See page 9.

1101. W. G. HELWIG.—“Playmates,” two children in each of two ovals, the same pair in each, but differently arranged. The pair on the right are staring at the camera, the one full of wonder, the other not quite sure whether he should laugh or cry. The pair on the left are better because they are engaged in something that takes their attention; the one full of delight with a toy animal, the other looking as if full of envy at the good fortune of his friend. They are only partially successful; development has resulted in chalky dresses without detail or shadow, and a too short focus lens makes the protruding feet about twice their natural size.

1102. C. H. BROOKS.—“The Hunter and Dogs” is a subject of no interest in itself, and the hunter, seated on a stone staring at the camera, does not improve it. If you wanted to make a picture you should have made it an upright, made the figure much larger, and let him be engaged in some way with the dogs or the gun, made him do anything, in fact, rather than stare into the camera. The photography is fairly good; indeed, considerably above the average.

1103. CARL C. DISTLER.—“In the Harbour” is hardly up to your usual work. The shadows on the left are unnaturally dark, and the detail is just a little too pronounced; one hardly likes to be able to read the names on the boats, as it is distracting; at least we find the eye, willy nilly, wandering from the truer pictorial distance to the bold and commanding lettering on the nearer boats. Coming from most of our correspondents, we should have said it was fairly good, but we want something better from you. See page 8.

1104. ARTHUR S. HAIGH.—“Jimmie” is a portrait of a colored gentleman in Cat Cay, the Bahamas, and, judging from the ornament in front of his cap, holding some official position. A little more care in stretching the background would have made it a really fine example of the “usual thing”—that is, of portrait photography as done by the average professional photographer. “Jimmie” is dressed up for the occasion, and is well pleased with himself, but if he had been taken at his ordinary occupation and in his ordinary clothes, it would have been more satisfactory as a picture. It is, however, a good photograph, and fine example of professional photography.

1105. G. L. KENT.—“Study,” a girl writing in a book, is well arranged and well lighted, a good photograph in fact, but dwarfed by being placed too low on the plate, and lessened in effect by being cut off too short at the bottom. If the lens had

been lowered a little, just enough to take half an inch from the sky and give it to the lower part of the figure, it would have deserved our praise.

1106. W. C. ALLISON.—"Wild Cucumbers," two pretty children looking through an opening in a mass of what looks like Virginia creeper in full flower. It is a pretty idea, prettily carried out, and might have been still better if you had only waited till the children took a more pleasing expression, one in which they would have been in some way connected instead of, as they are now, each attending to something outside, and each to something different from the other. The photography is very good, and the little part of the wall in the upper right corner is of value as connecting the foliage with the home. It will make a pretty initial, as well as the other two, for which you have our thanks.'

1107. E. R. SMITH.—"Evening Call," the foreground a river crossed by a railway bridge, the middle distance a fairly good landscape, and a very pronounced cloudy sky, afford material that might have been better employed. The well-broken up foreground helps to make a contrast with the all too straight sky-line, but the water, almost as white as the paper, could not have got its light from the very dark sky. Then, the sky is altogether too heavy for the landscape; so heavy, indeed, as to suggest the idea that it will turn topsy turvy. The subject is good and well composed, but the water is far too white and the sky far too dark to be anything like true. The negative is just one of those that, with a little suitable work, would be made all that could be desired. Lighten the sky to, say, about half its density, and reduce the water to just a shade lower than the sky, and you will have a much better picture.

1108. W. S. WELLS.—"Moonlight on the Monongahela." The more we look at this the better we like it, and yet it is not nearly true enough to nature to be good. The moon that casts such a brilliant silvery ripple on the water should have spread a far more luminous haze over the water as well as over all the surroundings. Probably a little intensification would give just the desired effect, and it is well worth trying, as the subject is fine and the arrangement could not be bettered.

1109. R. B. LAMSON.—"Evening in the Sheepcot," a bare hillside, a few sheep huddled together, and a low toned sky, all go together to make a pleasing picture, and one that fairly well suggests the close of the day. The only fault is a rather excessive stretch of foreground and consequently a too high horizon where a low one would have been better. Three quarters of an inch trimmed from the bottom would be an improvement. See page 5.

1110. O. B. WARREN.—"A Woodland Road" is a fine subject that might have been very much better managed. We reproduce it on page 11 as an object lesson, and therefore go a little more thoroughly into its faults than usual. The first thing that strikes the eye as awkward is the five vertical lines so close together, formed by the three trees and the two sides of the print. Different trimming would probably have prevented this. The two figures are too far apart for the necessary concentration of interest; closer together the effect would have been much better; and the lens has been of too short focus for the subject, as is felt by the unnatural difference in the size of the figures. With a longer lens, too, it would have been easier to have got the necessary atmosphere, the absence of which is fatal to true pictorial effect. And lastly, the values are altogether false; in consequence of under exposure there is nothing but white and black. Those who either cannot or will not expose long enough to get the necessary detail in the shadows had better turn to something else.

Prints of the soot and whitewash kind discredit photography in the estimation of those who know no better.

1111. RIEDINGER.—“Harvest Time.” Subjects of this kind, having no pictorial quality, but that are valuable as records of fact, should be better focused than this is; in fact, the sharper and more distinct the various objects are, the better. It would be better, too, to take them on a larger scale. As it is, however, it gives a very good idea of the harvesting operation, and that was all that was intended.

1112. DR. C. E. PARKER.—“Old’s Landing” as selected here is not a pictorial subject, nor of any particular interest, although the photography is very good. As a record of fact it is as nearly perfect as it is possible to be, but the *fact* is not the stuff, or at least as arranged here, of which pictures are made.

1113. W. H. BLACAR.—The unnamed print is a good subject from a good point of view, and might have been made a fine picture. But it is rendered worthless by the representation of a large sheet of water by white paper. The water is even lighter than the sky, from which it has its light, and even the sky is much whiter than ever sky was. Both foreground and distance are far too dark, and yet to get what detail there is you have had to push development till the water that should have been translucent is, in the negative, quite opaque. Twice the exposure would have been required. It is discouraging, that in spite of all that we have written, so many of our readers persist in giving exposures so short that nothing but black shadows and water white as the whitest paper can be developed. You should study very carefully the article on “Exposure” in our August number, and if after that you cannot expose long enough to get something like true values, you should give it up as a bad job. See “Answers.”

1114. W. S. GERTS.—“A Corner of an Illinois Farm” has two serious faults, an uninteresting subject and far too short exposure. The foreground of an 8 x 10 print occupies over five of the eight inches, with nothing in it but a few corn shocks or shocks, while the farmer’s home and its surroundings are pushed up into the bare two inches of sky. There was in it, if you had only seen it, a fairly good picture, and but for the great under exposure, there would be one in this if you trimmed all away but three and a quarter by four and a half of the upper right corner. But the exposure has been so short that the corn stalks that are left standing, and the shocks themselves, are simply white and black, white on the lighted side and black as night where they should have been only shadow, while the sky is simply white paper. Instead of half a second, two seconds would have been nearer the mark.

1115. S. T. CUSTIN.—“At Dusk” is a rather impressive impressionist view of a harbor with something like a steam propelled scow going to its rest, on its right a three-masted schooner, and behind a forest of masts, the whole conveying very well what is implied in the title. We shall reproduce it, although we are not very fond of this particular style of photography.

1116. E. A. DONNALLY.—“Evening on the Little Miami” does not in any sense suggest the closing of the day. Both sky and water are far too white, while the subject itself, mainly a large bending tree, is of no particular interest. It is an attempt at impressionism that makes no impression, and was not worth a plate.

1117. T. C. THATCHER.—“The Old Mill Race” suffers also from under exposure, although not to the usual extent; but it is more like a path through the wood than a mill-race. The figure is in the very worst place, the center; and the path itself seems to lead to nowhere as he abruptly ends it. From a different point of view

and with a suitable exposure this might have been made a pretty picture, but it is meaningless as it is.

1118. F. E. BRONSON.—“Anticipation” and “Realization.” We take the pair as they are so closely connected. A pretty child, fond of something in a cupboard, has mounted a table, and with hand touching the desired goody, looks to the mamma or nurse, with a delightful expression of satisfaction, as much as if saying: “You see I can reach it; may I have it?” Expression and position are natural and consequently fine; and, although the surroundings are a little more pronounced than we could have wished, it is altogether a decided success. In “Realization” the child has secured the desired article, has turned round, and, in an equally natural position and an equally satisfied expression, seems to say: “You see how big I am; won’t you give me some now?” This is one of the most delightful phases of photography, and we really wonder how so few fathers and mothers keep such a record of the sayings and doings of their little ones. We reproduce them on pages 16 and 17.

Our Table.

Apparatus and material for examination and report should be sent to Dr. John Nicol, Tioga Centre, N. Y.

THE “WHICH WAY LEVEL.”—E. G. Smith, of Columbia, Pa., sends a neatly got up circular level, to which he has given that name, and which should be in the pocket of every hand camera worker who finds a difficulty in holding the camera as it should be. That such are largely in the majority will be evident to anyone who examines a lot of hand camera work, as such prints with lines that are anything like nearly vertical or horizontal are the exception. The level is the size of a dollar, nicely finished, and with a bubble larger than usual, making it easily seen even in the glare of sunshine. Where there are straight lines in the subject it is easy to level by looking at the finder, but in landscape such lines are rare, and in such cases a glance at the level lying beside the finder enables the photographer to secure certainty instead of guesswork. No photographer who uses the level for a day will ever care to be without it.

“THE PHOTO-MINIATURE.”—Heroic trimming, so as to disentangle the nugget of gold from its surrounding of clay, has been preached by us ever since we began to recognize in photography a means of picture making, and therefore we are glad to see that this always interesting magazine tackles it with its usual thoroughness. The November issue deals with “Trimming, Mounting, and Framing,” and in each gives a great deal of very much needed information. It should be in the hands of everyone who aims at picture-making by photography. We sympathize with our good friend, Tennant, on the withdrawal of Ward from the firm, as it will lay on his shoulders, already heavily laden, much additional work; but the thought of its success will lighten it, and great as has been the success of the *Photo-Miniature*, success was never better deserved.

A TELEPHOTO LENS FOR THE HAND CAMERA.—Bausch & Lomb have filled a much felt want by putting on the market a telephoto lens that may be fitted to almost any of the ordinary hand cameras without additional length of bellows, thereby giving to those handy instruments new and valuable power. The change from the ordinary

lens to the telephoto can be made in less than a minute, when it will give at long range enlarged images of distant objects, free from distortion and equaling in sharpness, contrast, depth of perspective and brilliancy, pictures made with the regular lens at a short distance.

In order to make them of universal application they are made in three series, A, B, and C, for use with lenses of various focal lengths, and in the little book issued by the firm there is a table from which anyone who knows the focal length of his lens may select the particular lens that will suit him. Those books are to be got for the asking, and anyone who wants to do all kinds of work with the one hand camera should send for it.

We may add just a word of caution, however, to say that, although the telephoto lens is extremely rapid, and will, under favorable conditions, make rapid shutter pictures, the conditions must be well understood, and in most cases, where really good work is the aim, "time" will be found essential.

"THE PHOTOGRAM."—The editors of this always interesting and almost unique periodical are always springing something new and generally nice on their readers. The latest, and perhaps one of the best of their notions, is found in the December number, being neither more nor less than a kind of encyclopædia of useful information, gathered from most of the photographic journals as they have appeared throughout the year. "Photo-Facts" they call it, and in devoting almost the whole number to it, they have conferred a favor on everyone who can lay their hands on it. There is hardly a thing of use or importance that has appeared in any of the journals but what is to be found in it, just sufficient to show its value, and where to find all you want to know about it.

"LIESEGANG'S PHOTOGRAPHIC ALMANAC."—Although less ambitious than most of our almanacs, this year-book should be a welcome visitor to German readers, filled, as it is, with interesting matter written by some of the best known names connected with photography in Germany. The only pictorial illustration is the frontispiece, a very good collotype portrait of Dr. Miethe, and the first dozen of pages are, as usual, devoted to the usual almanac matter. This is followed by thirty articles on interesting subjects, including silver phosphate printing, stereoscopic revival, toning of bromide prints, a new flash lamp, etc., etc.

"WILSON'S PHOTOGRAPHIC MOSAICS."—This comes to us welcome as an old and long tried friend, with whom we expect to hold pleasant converse, and in whom we are never disappointed. It comes in its old garb, although in a different and we think better color, and, as usual, full of good things. They are not so numerous, however, but what there are better, in so far that, instead of consisting of a few short hints, they are complete monographs on the subject with which they deal. It begins, as usual, with a summary of the progress of the year, including a good deal about the recent innovations in portraiture. Dr. John Nicol follows, telling all that need be known of printing on plain paper, a method that, after all that has been said and done, is quite able to hold its own, carbon excepted, in any printing room, so far as beauty, simplicity and economy are concerned. Then comes E. W. Newcomb, who tells all about carbon printing, the simplest and the best of all printing methods, and one of the greatest puzzles in connection with photography. No one of average ability can give it a fair trial without finding that it is at once the simplest, most convenient, because, by it prints of any desired color can be made and the print transferred to any desired surface, and its permanence is beyond question, and for beauty it is unrivaled.

by any method, old or new. That carbon has not long ago displaced all other printing methods is simply beyond our comprehension.

Platinotype printing is well dealt with by Henry Troth, and W. E. Ward answers very fully every question that can turn up when the professional photographer begins to set about building a studio. The twenty-four pages he occupies are worth ten times the cost of the book, and should be read and carefully considered by every professional photographer in the land.

The illustrations also are a decided improvement on those of former years, and show in a marked degree the influence of the amateur on the professional, and that for good. There are some exceptions, some by men with well known and popular names, proving beyond a doubt that good work and popularity do not always go together; but there are also some, such as the portrait by Hollinger, between pages 12 and 13, that are not only the key to their success, but that are such as to demand success.

The photographer willing to learn will find the 50 cents paid for *Mosaics* of 1901 the best investment of the year.

CASE LIBRARY SALON AND EXHIBITION.—From the catalogue of the fifth annual Salon and Exhibition, held in the Case Library, Cleveland, kindly sent us by the librarian, we see that there were altogether 591 exhibits by 104 exhibitors, and judging from the many well-known names, the show must have been of a high standard. They include Yarnall C. Abbot, F. C. Baker, Andrew Emerine, Jr., E. Lee Ferguson, Frances B. Jonston, Gertrude Käsebier, J. T. Keiley, A. E. Mergenthaler, R. S. Redfield, Edmund Stirling, Henry Troth, Amelia C. Van Buren, Eva L. Watson, Mathilde Weil, Clarence H. White, etc., and therefore we regret to say that the reproductions in the catalogue cannot convey a fair idea of the quality of the best of the work. Some of the illustrations, such as that by R. P. Cattrall, opposite the first page, are examples of fine technique, but we are sure that very much better, from a pictorial point of view, could have been found.

We have always maintained that artists should be the best judges of pictorial photography, but we do see occasionally that they, or some of them, cannot get rid of the notion that the feature of photography is detail and definition, and, judging from that standpoint, consider such as the picture already mentioned as the very highest of photographic work. In judging pictorial photography, the artist should think only of the result, and not at all of the method of its production.

WYNNE'S EXPOSURE METER.—The communication from the Wynne Exposure Meter Company, the expectation of which was noticed in our last, came just as we were about to go to press, accompanied by a supply of new test paper, said to have better keeping qualities than anything hitherto obtained.

Mr. Wynne tells us that the whole of the American plates are about to be tested, and that the results will appear in a new speed list. He also kindly offers to send us an illustrated article, describing an instrument just designed for speed testing, which, if it will help readers to test plates for themselves, will be a decided boon.

We shall examine the new test paper, and after communicating with our correspondents and getting the results of their experiments, return to the subject in our next.

TORONTO CAMERA CLUB EXHIBITION.—We have to thank the secretary for a copy of the catalogue of the tenth exhibition of this club, the only one that we have seen that is altogether without advertisements. There were altogether 496 exhibits,

seventy-two being enlargments, and forty-three examples of hand camera work. There were also eleven sets of lantern slides. The following is the prize-list, the judges being C. M. Manly and E. Stanton:

Open Class—Prints: Gold medal, "Woman with Hoe," A. E. Mergenthaler, Fostoria, O.; silver medal, "Motherless," George H. Hardy, East Lebanon, N. H.; bronze medal, "The Stoker," W. C. Turnbull, Hamilton. Awards of merit to A. Emerine, Fostoria, O.; Charles E. Fairman, Washington, D. C.; R. C. Harris, Toronto; R. D. Stovel (2), W. B. Blackhall, and W. H. Moss, Toronto Camera Club.

Enlargements: Silver medal, "Fall Plowing," W. H. Moss, Toronto Camera Club; bronze medal, "In the Welcome Shade," H. B. Lefroy, Toronto Camera Club. Awards of merit to F. G. Crandell, New York; W. Ross, Toronto Camera Club, and Charles Lester, Montreal.

Members' Class—Prints: Silver medal, "Through the Furrows," R. D. Stovel; bronze medal, "A Harvest Team," John J. Woolnough. Awards of merit to R. D. Stovel, W. J. Watson, J. S. Plaskett, B. A., H. B. Lefroy, J. P. Hodgins, Frank A. Rolph, and W. H. Sherman.

Hand Camera Work: Silver medal, "After the Squall," F. R. Lockart; bronze medal, "Raggedy Rapids, Severn River," D. W. Deeks. Awards of merit to R. D. Hume and J. H. Follett.

"PENROSE PICTORIAL ANNUAL; THE PROCESS YEAR BOOK FOR 1900." London: Penrose & Co., Ltd. American Agents, Tennant & Ward, 289 Fourth avenue, New York.

"Process" work has so come into the life of photography that no up-to-date photographer, whether amateur or professional, who wants to add to his income or to see his work reproduced in printer's ink should be without this volume. The very first article, after the "Imprimatur," "Catalogue Illustration," by the editor, is an inspiration, the reading of which cannot fail to suggest methods of money making hitherto little thought of. Here, too, the amateur may learn how to make the kind of print best suited for reproduction; the process worker a new method of making reversed negatives, and the three-color experimenter finds a new and simple means of selecting color filters suitable for all the varieties of orthochromatic plates. There are altogether some thirty-eight articles, each by one who knows well what he writes about, and not one from which something useful may not be learned.

In addition to a storehouse of valuable information, the *Pictorial Annual* is also a picture book that will do honor to any drawing room. It includes altogether some 167 illustrations, seventeen being examples of color work, and sixteen suggestion giving initials. They are from photographs by photographers in many lands, and show the highest results in almost all the known processes that have been achieved by the best engravers in this and other countries.

The Pictorial Annual and Process Year Book is to the process worker a necessity, to the photographer a guide and adviser, and to those who are neither, but who love beautiful things, it will be a charming possession, a well invested \$1.50.

"CAMERA NOTES."—It seems just as it should be, that this journal that we regard as first in its influence on pictorial photography, should be the first that comes to us with the new date, the first of the century. It has begun the century well, especially from the pictorial point of view. We do not, of course, pretend to understand it all, and fear it will be long before we shall be able to see beauty in such landscapes as Steichen's, opposite page 138, or reconcile ourselves to the eccentricity of his "Self

Portrait," opposite page 146. But they please some, and probably there are some who see beauty in them, while they serve admirably as foils for such faces as Miss Watson's, opposite page 204, or such pictures as Craig Annan's "Lombardy Ploughing Team." The reading matter is more than usually occupied with reports of the sayings and doings of the Camera Club, but C. H. Caffin writes well of impressionism, the well known Thomas Bolas tells of some imperfections of our lenses, and Joseph T. Keiley gives a good, if somewhat wordy, account of the late Philadelphia Salon. Taking it all in all, it is a good and educational number that those who are fortunate enough to possess will go to again and again.

Letters to the Editors.

DEAR SIR: The November issue of the *Photo Miniature* offers a rather amusing instance of the necessity, or at least the desirability, of a critic's having a full and detailed knowledge of the subject with which he deals. In a paper on "Trimming, Mounting and Framing," full of valuable suggestions and practical instructions on those topics, the author, after presenting one of Mr. F. Holland Day's works as an example of suitable mounting, takes that gentleman to task for carelessness in having placed the print not quite square on the mount. Now the picture in question is a portrait of a Japanese lady, and Mr. Day, in mounting and framing the print, chose material and patterns of a distinctly Japanese character, and knowing that the artists of Japan make it a rule to place their pictures just a little off the square, he cunningly carried the similitude a step farther and mounted the portrait of the fair Japanese a little bit "crooked." All of which goes to show that a critic can't be too well posted when he undertakes to criticise the work of a man like F. Holland Day,

Yours, etc.,

F. C. BAKER,

DECEMBER 29, 1900.

To the Editor of THE AMERICAN AMATEUR PHOTOGRAPHER:

DEAR SIR: As an ex-editor of your valued magazine, and one interested in the welfare of photography in this country, above all things, I exceedingly regret to see the Philadelphia Salon reviewed in your December number in such a manner as to be absolutely misleading. Your magazine caters, as I believe, to the beginner principally, and it is he who must be treated with special care. For that reason I would like to call your attention to a few fallacies in the article alluded to. In reviewing, or speaking of my pictures, Dr. Mitchell says: "The most of the pictures exhibited by Mr. Stieglitz have already been shown and commented upon at previous exhibitions, and therefore need no additional review. 'The Street Pavers,' 'Mending Nets,' 'On the Dunes,' are familiar subjects. It is a pity, however, in an exhibition where artistic 'originality' is supposed to be pre-eminent, that Mr. Stieglitz should exhibit a picture which is so evidently inspired by a popular Dutch painting, copies of which can be found in almost any book shop in Holland, etc., etc."

Now, as for the truth. Of the ten prints shown, seven were *never* before shown at any public exhibition, although some had been recently reproduced in magazines. According to Dr. Mitchell, the reproduction of any print seems to exclude the original from any exhibition. "On the Dunes" *never had been shown nor printed before*

in any form. And as for the inspiration of the Dutch subjects, will Dr. Mitchell kindly specify and name the source of inspiration? Generalizations are dangerous. It must also be borne in mind that my negatives were made eight years ago, lack of time having prevented me from printing many of them before. In view of these trifling errors in the paragraph alluding to my own work, permit me to say that the article abounds with the like from beginning to end. I do not question Dr. Mitchell's honesty of purpose, for I refuse to believe that he is deliberately trying to misrepresent the work of many who are working seriously for the advancement of *pictorial* photography. True, this is but a small part of photography; but the Salon, as I understand it, is run in the interests of that branch *only*. I fully agree with him that there ought to be other photographic exhibitions of a broader scope; but does he expect that medical photography, scientific photography and the like, should be fostered by an *academy of fine arts*? Should pure pictorial photography be fostered by a *scientific institution*? Dr. Mitchell and many others have missed the point altogether. He and his like are fighting spectres. It is not a question whether Mrs. A., B. or C.'s work is admired by Dr. Mitchell or myself. The Salon at Philadelphia represents the choice of pictorial work chosen by five judges, who did their work honestly, fearlessly and conscientiously. It is an expression of their opinion. I might also add, for the sake of your readers, that Mr. Eugene, whose work is condemned as "no art" by Dr. Mitchell, is a painter of no mean ability, who has recently been called to Europe to paint some portraits. Do you not suppose that he should know a little more about "art" than Charles L. Mitchell, M. D.? What would the latter think if Mr. Eugene were to write upon medicine, because he had happened to read some patent medicine circulars, or had dabbled in medicine in an amateur way?

Pictorial photography is making such rapid strides in this country that it naturally brings forth a storm of comment and abuse, for progress and conservatism rarely go hand in hand, and the multitude *will* stick to old ideas. What is good will live, and time will show which work hung at the Salon deserved the honor.

These few lines are simply intended to show your readers that there are various ways in looking at pictures, and that it is left to them to choose between the eyes of a trained artist like Eugene, or a medical gentleman of the stamp of Dr. Charles L. Mitchell.

Yours very truly,

ALFRED STIEGLITZ.

Society News.

Secretaries of camera clubs or photographic societies or associations are respectfully requested to send to Dr. John Nicol, Tioga Centre, N. Y., reports of meetings, copies of papers that have been read before the members, or anything of general interest that they would like to appear in the journal.

WILKESBARRE PHOTOGRAPHIC EXHIBITION AND SALON.

The Camera Section of the Wilkesbarre Wheelmen announces its Second Annual Amateur Photographic Exhibition and Salon, February 2, 1901, and continuing one week.

The purpose of the exhibition is to bring together examples of amateur photographic work possessing the highest degree of artistic merit. The exhibition will

consist of 250 pictures, divided into two sections, General Exhibition and Salon. All work submitted must pass a jury, who will select the 250 pictures based on the standard of highest pictorial excellence.

A competent jury will rigidly select such work for the Salon as possesses exceptional merit and evidence of artistic conception.

Six prizes, amounting to \$100 in value, are offered. These will be awarded on the basis of pictorial composition, originality and technique. A certificate, bearing the signature of the judges, will be awarded to those whose work is accepted for the Salon.

Jury of Selection: J Wells Champney, A. Walpole Cragie, Charles I. Berg, of the Camera Club, New York City.

Rules and Regulations.

All pictures must be mounted separately, but *not framed*. The title, exhibitor's name and address, price, if for sale, must be upon the backs of all pictures. Each exhibitor will receive a catalogue, which will be the official notification of acceptance. All pictures accepted will be criticised separately and returned with criticism attached, after the close of the exhibition.

An entry fee of twenty-five cents will be charged each exhibitor, to defray the expense of criticism. Forwarding and return charges must be paid by the exhibitor. If pictures are forwarded by mail, the entry fee, together with sufficient postage or money to cover cost of returning, must accompany same.

Arrangements for the sale of pictures will be made subject to a charge of 10 per cent. commission. While the utmost care will be exercised to protect pictures while in its charge, the management will not be responsible for any loss or damage that might occur.

Pictures must reach the secretary not later than January 31, 1901.

Address all communications and pictures to R. S. Kauffman, Secretary Camera Section W-B. W., 130 South Main street, Wilkesbarre, Pa.

NOTE.—Having learned from our previous exhibitions that pictures can be hung as effectively unframed as framed, we trust this point will not cause anyone to withhold their work. It is at once apparent that the expense, and labor, as well as the cost of transportation, is greatly reduced.

EXECUTIVE COMMITTEE

THE CAMERA CLUB OF NEW YORK.

The regular monthly meeting of the club was held on Tuesday evening, December 11. Nothing but routine business was transacted, though it was announced that the Board of Trustees had unanimously voted to expel from membership the member who was called to account at the previous meeting for his attack on members of the committee of publication on *Camera Notes*. It was also stated that the club's annual dinner would be held on February 2, 1901, at the New York Athletic Club.

Prints of members of the Boston Camera Club were on exhibition from December 12 to January 4.

Mr. J. Wells Champney has volunteered to assist the lantern slide committee on test nights by way of giving five minute talks on the elements of picture composition. The night of December 19 his subject was on the value of foreground. It is very important, and is closely related to the entire picture. It must share the effect of whole unity of the picture from beginning to end, it is the entrance of the eye into

the picture and must be so arranged as to lead the eye along to the principal point of interest in a pleasing way. He used certain slides shown on the screen to illustrate good and defective foregrounds. Taking a road scene, he stated that it was more pleasing to have a road start upon the left hand side of the picture toward the right than *vice versa*, for the reason that persons generally are accustomed to read from the left to the right, and to use the right hand more than the left. In another picture he brought out the value of a figure appropriately clothed, rightly located, in helping to lead the eye along to the central or main point of interest.

Recent Patents and Trade Marks.

The following digests were furnished by Messrs. Davis & Davis, patent attorneys, of Washington, D. C., and at St. Paul Building, Broadway and Park Row, New York.

F. BENJAMIN, Lansingburg, N. Y.

Camera. No. 654,777.

The lens board is adjustably mounted on the base board, and the plate frame is universally mounted on the base board, so that it may be swung forward or backward, or toward either side.

A. O. GRAF, assignor to the Manhattan Optical Company, of New York City.

Gripping Device for Camera Fronts. No. 654,790.

The front board is provided with a flanged track. The lens board is provided with a flexible plate, which is formed at its edges with inturned hooks to engage the flanges of the track, and with means to cause the plate to buckle and thereby grip the flanged track.

A. SCHWARZ, Steglitz, Germany.

Sensitized Photographic Paper. No. 656,751.

A paper naturally transparent and substantially grainless is sensitized on its opposite sides, the coating on one face being more sensitive than the coating on the other face.

JACOB SCHAUB, Logan, Utah, assignor of one-half to Aten Bowman Hower, of Baker City, Ore.

Photographic Camera. No. 657,169.

On the camera face is mounted a front door and a laterally movable carriage which supports the plate-holder, and the plate-holder and rear end of bellows are carried by a frame which is vertically adjustable on the laterally movable carriage.

JOSEPH D. MORLEY, Lake Pleasant, N. Y.

Focusing Camera. No. 657,437.

A box camera having a longitudinally adjustable plate or film-carrying structure is provided with a focusing device having its adjustable element connected to and movable with the film or plate-carrying structure of the camera.

EDWIN J. BALL, Hull, England.

Automatic Photographic Apparatus. No. 657,505.

Plates from a magazine automatically dropped into a plate-holder carried by a disk. After exposure the disk is rotated and moved laterally, so that the plates are immersed in the developing and fixing solutions in succession, and are then delivered.

SIEGMUND LUBIN, Philadelphia, Pa.

Kinetographic Film. No. 657,555.

The film is formed with a thin ground or central portion to receive the pictures, and thicker edges to give strength. The thicker edges are perforated to engage feeding mechanism.

ROBERT D. GRAY, New York.

Lens. No. 657,820.

This invention relates to an element for an optical objective, which is comprised of a plano-convex positive lens and a double-concave negative lens, the lenses being spaced apart to leave a plano-convex air space between the lenses, the positive lens having a higher refractory index than the negative lens.

HENRY M. REICHENBACH and SCHADEL, Rochester, N. Y., assignors to the Reichenbach, Morey & Will Company, same place.

Photographic Shutter. No. 657,833.

The shutter casing is entirely closed, so as to be dust proof, and is provided with a rotary setting ring concentric with the lens tube and with a release lever.

J. F. NEWELL, Chicago, Ill., assignor to J. H. Smith, same place.

MAX JURUICK, Demarest, N. J.

Roll-holding Camera. No. 657,942.

A box camera is provided with a ground glass in axial line with the lens for focusing purposes, and with a film-holder between the lens and the ground glass. This film-holder is adapted to be moved out of the plane of the lens.

PROSPER M. C. GRENIER-VILLERD, Paris, France, assignor to Henry E. Howland, of New York City.

Process of Coloring Photographs. No. 658,257.

The process consists in photographically printing and then fixing and washing the photogram upon suitable fabric, and thereafter impregnating the fabric with a solution of alum, and subsequently applying the colors to the printed face of the fabric, in contradistinction to coloring a gelatine or other film.

A. O. GRAF, Demarest, N. J.

Roll-holding Camera. No. 659,963.

The camera is provided with a ground glass which is adapted to be shifted backward and forward. The roll holder is mounted on one side of the casing and is adapted to be moved across the frame to unwind the film for exposure, after the ground glass has been moved back out of the path of the film.

PAUL RUDOLPH, assignor to the firm of Carl Zeiss, Jena, Germany.

Photographic Objective. No. 660,202.

It is a spherically and chromatically corrected objective, having an anastigmatic-ally-flattened field, and consists of at least three separate lenses, so as to include at least two air spaces, in which objective two of the air spaces are separated from the diaphragm, each by at least one lens, and confined one by a pair of glass surfaces the power of which is positive, and the other by a pair of glass surfaces the power of which is negative.

Background Carrier. No. 660,332.

Within an upright main frame is mounted a rotatable carrier which is vertically movable and is adapted to receive two background frames, one of which extends on each side of the main frame when the carrier is elevated.

R. E. REARDON, Ottawa, Canada.

Plate Holder. No. 660,394.

The holder proper is pressed out of a single piece of suitable material and a pocket is formed therein for the plate. Guide grooves are formed in the holder for the cardboard closure slide.

FREDERIC E. IVES, Philadelphia, Pa.

Photochromoscopic Apparatus. No. 660,442.

Means are provided for dividing the rays from the view point or collecting the divided rays at the view point, and transparent bodies of more highly refractive substance than air are interposed in the path of the longer rays to equalize images which are in the same plane, but at different distances from the view point.

L. J. VOGT, assignor to the Vogt Optical Company, of Rochester, N. Y.

No. 660,476.

Within the casing the shutter leaves are pivoted, and they are connected by links to a lever, also pivoted in the casing. This latter lever is engaged by a spring-actuated operating lever which opens the leaves. Devices are provided for holding the operating lever in its set position and for releasing it.

EDWARD BAUSCH, assignor to the Bausch & Lomb Optical Co., Rochester, N. Y.

Objective. No. 660,747.

The objective is composed of four lenses having different curvatures, three of said lenses being positive, and each having different refractive indices, and the fourth lens being negative and having a refractive index lying between that of the positive lens having the lowest index and either of the other positive lenses.

W. V. ESMOND, assignor to the Moving Picture Company, of Chicago.

Kinetographic Camera. No. 661,119.

Within the casing is a main reel for the ribbon strip, and a sustainer plate to hold the ribbon in the focal plane. To feed the ribbon two mutilated co-acting feed gears are provided which rotate in unison and are similarly mutilated to give the ribbon a positive intermittent feed.

OTTO C. BOTZ, Sedalia, Mo.

Folding Flash-light Bracket. No. 661,364.

A jointed rod is secured to a camera by a socket, and flash powder carrying arm is pivoted thereto and held in an upright position by means of a hook carried by one of the arms and engaging the flash powder carrying arm.

J. V. COATES, Saratoga Springs, N. Y.

Shutter. No. 661,367.

A rotating shutter provided with an exposure opening is provided with a trip lever and release lever, and each of these levers is provided with suitably arranged stops and check arms to secure the necessary operation of the rotary shutter.

GEORGE EASTMAN, assignor to the Eastman Kodak Company, of Rochester, N. Y.

Roll-holding Camera. No. 661,469.

An inner casing is provided which carries the lens, film rolls and film guides, and around this casing is placed a detachable cover which encloses three sides of the camera and is locked in position and to the inner casing by the slidably removable front of the camera.

MATHIAS J. EHLMAN, Rochester, N. Y., assignor to the Eastman Kodak Company, same place.

Photographic-film Cartridge. No. 661,504.

Short sections of film are secured at one of their ends to a flexible opaque backing strip. These short films are spaced apart, and the backing strip is weakened midway between each film, so that the films may be readily detached with a sufficient backing strip attached to cover the detached film from either end.

PROSPER M. C. GRENIER, New York City, assignor to the Grenier Art Company, of West Virginia.

Colored Photograph. No. 661,769.

The claim is for a photograph in colors on textile fabric, having alum in the fabric, and on the back thereof, and colors applied only to the face thereof.

Answers to Correspondents.

Correspondents are requested to notice that communications intended for the editors should be addressed to Dr. John Nicol, Tioga Centre, N. Y.

W. W. WARD.—We do not know the composition of "Luxo," and cannot say what would be the candle power of the flame from half an ounce burned at once in thirty-six cups. For artistic lighting of portraits acetylene is better than any kind of flash-light, as it gives time to study and arrange it to your heart's content, but the search light is not the best form in which to employ it, as it is too much concentrated. For one good way see page 392 of our September number for 1899. With a generator for about twenty lights and a few experiments you should have no difficulty in devising a method that will be satisfactory. As to the best burners for the purpose consult the lists of the burner department of the Acetylene Gas Company, 105 Walker street, New York; or the State Line Talc Company, Chattanooga, Tenn.

W. H. BLACAR.—You will find something about the photographing of snow scenes on another page. If you will compare the illustrations in the magazine with their numbers in "Our Portfolio," you will find that quite as many are inserted to show what to avoid as what to follow. We appreciate your reference to the print you name. The block was made by mistake, has lain in the office for years, and was inserted by mistake. See note at the foot of this page.

HELEN S. MORTIMER.—Sensitol, sold by the Haller-Kemper Co., of Chicago, and probably to be got from any dealer, will answer your purpose. Where only a few sachets for Christmas presents are required, you will find it cheaper to buy than to make the sensitizing solution; but if you *must* prepare it for yourself, the following formula will be found excellent. It may be employed to sensitize all kinds of surfaces.

Silver nitrate.....	3 grammes
Uranium nitrate.....	30 "
Water (distilled)	10 c. c.
Alcohol	100 "

The solution will keep indefinitely and may be applied with a brush and dried, in

the dark, of course. When printed, it is fixed in by simple washing in water slightly acidulated with nitric acid, and, if cloth or silk, will be improved by ironing.

G. F. SHAVER.—Our opinion of the Winchester lamp is, if possible, more favorable than when we wrote the opinion to which you refer. It gives us four or five hours' steady light every night, with only an occasional touch to the water valve. The proper regulation of that is indeed the only thing that there is to learn about the working of the lamp, but after a few nights it will be found simplicity itself. There is absolutely no danger connected with it; indeed we cannot see how it would be possible to cause an explosion, try how you may. The cost is easily calculated. We paid $4\frac{1}{2}$ cents a pound for the carbide, and use six ounces a night of from four to six hours.

J. TOMLINSON.—We do not reply privately. We are not acquainted with all the "regular makes and styles" of outfits, and cannot give you the required information, nor do we know the particular camera you mention, and so cannot give you the address of the maker. As a rule, most of the cameras already fitted with lenses have the latter of too short focus for true pictorial work, so our advice is to ascertain which has the longest focus, and get that. Swing backs and rising fronts are convenient, but not absolutely necessary. The two essentials for true pictorial work are a long enough focus lens and time exposures; all else depends, not on the outfit, but on the man behind it.

H. TANSY, HAMILTON, ONT.—We can only guess at the signature, and so add the address. We do not reply privately, unless under particular circumstances, and *never* unless an addressed envelope is sent, as we cannot afford the time necessary for guessing such signatures as yours. You will find an article on the stripping of films from broken negatives in the September number of our 1896 volume, page 395; but as you may not have the back numbers we append the following method: For convenience of handling, lay the broken negative, face up, on a plate of glass about the same size, and soak it for ten or twenty minutes in a 1 to 8 solution of formalin. When dry lay it on a leveling stand and coat it with thick enamel collodion. When this is quite dry, if you want to make a stout film coat it with a solution of gelatine, to which a little glycerine has been added, and when that is dry, a second coat of the collodion. Then cut the film by running a penknife round the margin and soak in a solution of hydrofluoric acid, ten drops to the ounce, and in few minutes the film will separate from the glass, and may be printed from either side, like an ordinary celluloid film. We have sent your complaint to the publishers.

MARY L. LINDSAY.—It is a matter of little importance where you place the color screen, so long as it is between the object and the plate. Where the lens does not project beyond the inside of the camera front, it may be conveniently placed there, and kept in position by a grooved strip at bottom and a turn button at top.

C. P. C.—The "clinging" of the drapery in the living statue which you are anxious to imitate was a result of its having been just wrung out of a tub of water; but it is a rather dangerous practice for the model. See that the room is not too warm, and that she is not kept in it longer than necessary.

We feel as if it were necessary to apologize for the appearance of the illustration on page 491 of our November number. It is true that many of our illustrations are intended to show what to avoid, but the photograph in question was too utterly bad even for that purpose. It was sent to the engraver by mistake several years ago, and the block has lain in the publishing office ever since, till by an equally annoying mistake it found its way into the November number.

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For Sale.—4 x 5 Pony Premo Sr., R. R. lens Victor shutter, 3 plate holders and sole leather case; has had excellent care and is good as new; outfit cost \$30.00; will sell for \$17.00. Address, O. Manwarring, Room 11, Union Depot, Peoria, Ill.

Wanted.—A good 8 x 10 lens, suitable for landscape work and copying. Must cover well with fairly large stop. Price must be reasonable. Address, J. W. Traver, 12 Lexington Avenue, Montclair, N. J.

For Sale.—A professional gallery outfit, in fine condition, consisting of Bonanza camera stand, Anthony 8 x 10 portrait box, double swing, etc., a very good Darlot 4 x 4 lens with portrait shutter, vignetter and Anthony curtain slide holder. Almost a gift for \$50.00. Also have a \$25.00 Columbia graphophone with 32 inch horn and stand and an extra good selection of 4 dozen records. Outfit very little used; \$30.00. A brand new 5 x 7 Premo Sr., 1900 model, for \$30.00. Rev. E. F. Wm. Stelthorn, Marion, O.

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"RESTING"

THE
AMERICAN AMATEUR PHOTOGRAPHER.

VOL. XIII.

FEBRUARY, 1901.

NO. 2.

Exposure.

AT a recent meeting of the Royal Photographic Society of Great Britain, Colonel Gale showed 120 slides of animal life and pastoral studies. They were all of his well-known quality, all contained figures or animals; and in his preliminary remarks he said there was not a snap shot among them. All were taken with the camera on the tripod, and all were what might be truly called time exposures.

No. 1130.

By Will G. Helwig.

"FEEDING THE CHICKENS."

Colonel Gale's work is well known on both sides of the water, and aside from his ability in selection, the secret of his success is mainly due to sufficient exposure; hence we take his statement as a text for a short sermon on the use and abuse of the hand camera.

And first, as to its use. It is true that there are subjects, times, and conditions in which the hand camera may be employed with advantage, but they are few and far between. A subject that may be photographed with the sun behind the camera, and in which there are no deep shadows, with the light at its best, a rapid plate, and a lens working at not less than $f/8$, or as much larger as possible, may be photographed by a snap. But the cases are few when there is such a conjunction of favorable circumstances, and rarer still, are such photographs worthy of the name of pictures.

To the tourist or traveler whose ambition does not go beyond graphic memoranda the hand camera is a boon and a blessing, and at the race-course or regatta it may give unmistakable evidence; but the photographer who wants pictures and knows how to make them, will put it on the stand and "expose for the shadows, leaving the lights to take of themselves."

A correspondent, replied to in another column, asks whether having a lens working at $f/6$ renders the use of a tripod inadvisable? and as there may be others having the same idea, we say at once that in true pictorial work the tripod is a *sine qua non*. There are many excellent hand cameras on the market, and for those who take to photography merely as a pastime any one is almost as good as any other; but for the picture-maker a focusing glass, a means of focusing, and a tripod are essential, and all three should be employed whenever possible; and when it is not, as a general rule, the exposure on which they cannot be employed had better be left alone.

We cannot do better than conclude with the following extract from our article on the same subject in Lloyd's "Encyclopædia." "Briefly, then, the abuse of the hand camera is its employment *in the hand* on subjects and under conditions that are beyond its limits; and its proper use, which includes every phase of photography, is to recognize its limits in that position, and for everything beyond them to put it on the stand."

No. 1148.

"SURF—ODIERNE'S POINT."

By J. A. Glassey.

Wynne's Infallible Exposure Meter.

ALTHOUGH converts are proverbially enthusiasts, not enthusiasm, but a desire to do justice, induces us to return to this subject.

Some years ago, while we were yet throwing cold water on the employment of anything in the shape of an exposure meter, on the ground that he who began with and continued to lean on a crutch would never learn to walk, would never acquire the faculty that we possess, that of by instinct as it were, *feeling*, just as the cap was to be removed, what the exposure ought to be, the first real impetus was given to the employment of Wynne's exposure meter in this country by an article in our pages written by Mr. Wenzel.

Later on we were led to see that, while not undervaluing the faculty of automatically judging exposures, there were many who would not take the trouble or have the patience to acquire it, and that for them the meter would be invaluable, and from sceptics we became advocates.

So far all was well till June of last year, when there appeared in our pages an article, "A Note of Warning," by Mr. Wenzel and Mr. Yellott, in which they complained of the irregularity and unreliability of the test paper supplied with the meter, concluding with "hoping that the manufacturers of the meter will take cognizance of our plaint and restore our confidence in the handiest, and, with properly sensitized paper, the best of all exposure meters, we will in the meantime fall back on the experience of the past, which is sufficient for all work save that for which we need the meters most—work indoors under untried conditions." This was followed by a number of letters, all complaining of the same fault,

while some also complained of the too limited number of American plates listed, and the unreliability of the speeds given to some that were.

Having, as we said, become a convert to the employment of the meter, and anxious to see confidence in it restored, we laid the matter before the Infallible Exposure Meter Company, in England, and we cannot do better than print the following extracts from their reply:

"I must admit that I have had considerable difficulty in the matter of the standard tints and the sensitive paper used in our exposure meter; and have carried out endless experiments in order to obtain a tint and a paper that would be and remain correct.

"With reference to the tint, we found that the white lead and pigments formerly used did gradually change slightly in color, the principal change being caused by the white lead, which is now entirely abandoned, and the coloring matter is specially manufactured and tested for permanency.

"Our principal difficulty, however, has been with the test paper, as we could not for a long time account for the variation between one batch of emulsion that gave satisfactory results, and another that did not, till we had some of the chemicals analyzed, and it was found that different samples of one of the principal ingredients varied considerably. We have now had a pure article specially manufactured for us, and since then there has been no complaint concerning its coloring. Of course, as you are aware, all sensitive papers containing salts of silver are liable to deterioration by long keeping, but we have had samples that have been kept for over twelve months, and were at the end of that time thoroughly reliable and efficient.

"I have pleasure in sending you a meter with the new tint and samples of the sensitive paper, which I think will be found satisfactory in every respect, if the meter is kept in a reasonably dry situation, as the paper *will* deteriorate if kept for any considerable time where it is damp.

"We have recently consigned a quantity of sensitive paper to our agents, Messrs. Anthony & Co., and written them not on any account to send out any of the old stock. We have also asked them to procure for us samples of *all* makes of American plates, so that we may make a special re-test and revise the speed list.

"I have designed a special instrument for testing the speed of plates and paper, which on development automatically prints on the plate the actual speed; and if you think that an illustrated description and method of testing would interest your readers, I shall gladly prepare and send it."

(Signed)

G. F. WYNNE.

On comparing the new tint with the old one we find that the latter

'ALONG THE KICKING HORSE RIVER"
(CANADIAN ROCKIES).
BY
JAMES W. MILLIGAN, M. D.

No. 1154.

had deteriorated considerably, passing from the bright, slightly greenish blue, to a muddy, dull tint; and the new test paper colors to the exact shade of the new tint on the disc; so that if both are fairly permanent, as we have no doubt they now are, the meter may fairly claim its ambitious title, "Infallible." The new disc is an improvement on the old in so far as instead of the black patch that covered the sensitive paper till the moment of exposure, there is now cemented in its place a small circle of orange glass that enables one to turn on a fresh portion of the sensitive paper without exposing it to light, and at the same time see what he is doing. Mr. Wenzel, to whom a new disc and sensitive paper had been sent, writes:

"The Wynne Infallible Exposure Meter is once more worthy of its name, save as regards the speed list of American plates. A new speed list is promised as soon as possible after the receipt of samples of American plates from the American agents for the meter. It would be gratifying if Messrs. Anthony & Co. would state that they are facilitating matters. I visited them two years ago, and again but a year ago, putting the need of a new speed list before Messrs. Bache and Scandlin successively; but to no purpose, seemingly.

"The faults of the speed list are largely on the safe side, *i. e.*, the speeds are lower than the actual speeds of the plates listed, and the result in practice would in almost every instance be slight over exposure.

"Bearing in mind what I have above said, the user of the Wynne meter should derive from its use perfect satisfaction. It is hardly probable that more than a few plates of the many listed will be constantly employed by any one person. Therefore, it will be an easy matter to determine the actual speeds of the plates used, as advised in the pamphlet accompanying each meter. Once this is done, with regard to exposures for the plates in question, the

meter will be as its name implies—"Infallible."

Mr. J. Harmanus Fisher, of Baltimore, with whom we had also been in communication, and to whom the new disc and paper had also been sent, says: "The paper colored to a perfect match with the tint on the dial, and I feel that the usefulness of the meter has been restored."

To those who are unacquainted with Wynne's Infallible Exposure Meter we may say that it is an instrument the size and shape of an ordinary watch, that needs only to be set, exposed to the light for a few seconds, and the partial turning of a disc, to tell what should be the exposure under almost

No 1232.

By Frank O. Dobbins.

"AN ITALIAN SCENE IN PHILADELPHIA.

all conditions; with light strong enough to darken sensitive paper to a certain shade in the 1-128 of a second, or weak enough to require 64 seconds to color it half as deep, and with diaphragms from $f/4$ to $f/362$; and that, without the intervention, in any degree, of the personal equation.

To arrive at this desirable information three factors are involved; the intensity of the light, the speed of the plate and the value of the stop to be employed. The first is ascertained by counting the number of seconds taken to darken the sensitive paper; the second, the speed number, is the size or value of the stop that would give just the correct exposure in that number of seconds, and is to be found in the speed list that accompanies the meter. Those speed numbers or f values are marked on the revolving dial, and by the simple turning of the speed number of the plate to the actinic number on the disc, that is, to the number of seconds required to darken the paper, the proper exposure for any stop value is clearly shown.

No amount of pay ever made a good soldier, a good teacher, a good artist, or a good workman.

Pigment Printing. — II.

BY H. BURN-MURDOCH.

WHILE, as said in my last, better prints can be got from any kind of negative by pigment printing than by any other method, all kinds of negatives are not equally suited for it. For the best results the negative should be strong, rather than weak, and full of gradation. Only the deepest of deep shadows should be bare glass, and negatives with such, if the tone values are as true as they should be, will be few and far between; and only the highest of high lights will be anything like opaque, and they will be equally few. The older photographers, those who have been accustomed to the use of albumen paper, will find such negatives as were best for it will be equally suited for pigment printing; and it may be taken for granted that the nearer it is to perfection for albumen the more perfect will be the result from pigment.

When negatives are made specially for pigment printing, the much dreaded but perfectly simple double transfer may be avoided by making them reversed. This may be done in various ways. In making them from small positives, as described by Horace Simpson in the June number of this journal, it is only necessary to reverse the positive in the copying camera, or in photographing direct in the ordinary way the plate may be reversed in the camera and the negative exposed through the glass, care being taken that the springs which press the plate into position are not allowed to scratch the film. Or the film may be stripped from negatives made in the ordinary way, by a short immersion in a weak solution of hydrofluoric acid, and transferred to another plate in a reversed position.

Having secured the suitable negative, it must be prepared for pigment printing by the giving to it of a "safe edge," a narrow line round all four edges of any opaque matter, black varnish, a strip of black paper, or anything else that will protect about one-eighth of an inch all round from the action of light. I prefer to employ the varnish, and apply it neatly and rapidly by a small camel hair pencil, to which has been tied as a guide a splinter of wood (a match answers admirably) projecting just a little beyond the point. The purpose of the safe edge is to prevent any part of the edge of the tissue being rendered insoluble, as in that case it would allow the water to get in below, cause frilling and possibly separation from the support during development.

The negatives being ready, the next step is the sensitizing of the tissue. This is accomplished by immersion in a from 3 to 5 per cent. solu-

"AN INTERESTING STORY"

tion of potassium bichromate, the weaker in the summer, the stronger in winter, and made slightly alkaline by ammonia. The time of immersion is a matter of considerable importance, as, while there may be considerable latitude, variation in the time gives various degrees of sensitiveness, and as the action of light produces no visible image, it is important that that should be avoided. It is not, however, the actual *time* of immersion that is important, as the effect produced, the action of the solution on the tissue, and carbon printers are generally agreed that the best results are got from tissue that has been removed from the solution the moment that it has become limp.

The tissue comes in rolls and cut sizes. The amateur, where economy is not a great object, should employ the latter; and in handling it care should be taken that the fingers do not come in contact with the surface. The experienced pigment printer may sensitize large sheets

and cut them to the required sizes, but the beginner had better be content to sensitize the sizes that he intends to print. Sometimes, when the tissue has been kept in a very dry place it gets very hard, almost brittle, and in that case it should be laid for a short time in a dampish cellar, or in a box with a moist sponge, as, while it should be dry at the time of sensitizing, it should not be "bone dry."

The sensitizing solution, consisting, as I have already said, of potassium bichromate from three to five parts, water 100 parts, made slightly alkaline by ammonia, and filtered, should be poured into a tray a little larger than the largest sheet to be sensitized, to the depth of at least an inch, and two inches would be more convenient. The tissue should be dusted with a soft brush or

No. 1139.

By F. C. Baker.

"EDGE OF THE WOODS."
(Pinhole Photograph.)

tuft of cotton, and, face up, slipped under the surface of the solution. The tissue has a tendency to curl, and its surface to repel the liquid, and both must be avoided by gently passing the fingers round the edges and along the surface. This is easier to do than to describe, but a few trials will make it come automatically. As soon as the tissue lies flat it must be turned face down and the fingers passed along the back in the same way until it becomes limp, which will be in from two to three minutes, depending on the temperature, which should be from 50° to 60° F., kept within those limits by artificial heat in winter, and by the use of ice in summer.

No. 1029

By R. H. Clark.

"A MOMENT OF INTEREST."

As soon as the tissue has become limp it should be drawn across the edge of the tray or lifted by a corner and allowed to drain for a few seconds, and then squeegeed on to ferrotype plates so as to get rid of all superfluous liquid; and set aside to dry. A good deal has been said about the advantage of rapid drying, but I have never found any difference between tissue dried rapidly in an artificial current of warm air, and that that was simply set up on the ferrotype plate at night and found dry in the morning. And indeed that is the most convenient way to do. Sensitizing may be done in the ordinary light, as while wet the tissue is insensitive; and it may even be dried in a dull light, as the yellow of the bichromate is sufficient to protect it.

The sensitizing solution will keep indefinitely, and a considerable quantity may be made up at once, but although no chemical change takes place during its sensitizing action, what is left in the tray should be thrown away, after the sensitizing of each batch.

Generally the dry tissue leaves the ferrotype easily, but if it should be found to stick a remedy will be found in dusting the plate with talcum or French chalk, and afterwards polishing it off with a soft cloth.

Contribution Box.

AN ALLEGED PREVENTATIVE OF HALATION.

"Before closing, I would like to mention an experiment of mine in backing plates, which I notice is under discussion in your December issue. I have pasted pieces of thin black cloth on my plate-holders, so that when the plates are inserted the glass surfaces are pressed against them. I find that this gives perfect non-halation with ordinary plates. The advantages are obvious—no backing to wash off, and the very great convenience of being able to back any kind of plate without previous preparation.

"In confirmation of the above statement it may be useful to mention that on several occasion I have been obliged, in taking interiors, to expose against brightly illuminated windows for from 40 to 50 seconds, using Cramer's med. iso. plate, with $f/16$ and without color screen. The plates on development showed only a faint trace of fog, which was easily removed by a little friction with a cloth moistened with alcohol. This appears to be rather a severe test, and I think it will pay your readers to give it a trial. If you care to see prints made from the negatives referred to, I shall willingly forward them. CHESTER W. LARNER.

[Thanks, but there is no need to send the prints, as we know exactly what the black cloth will do. This idea has been exploited almost as often as there are serious beginners, and arises from a misconception of the nature and causes of halation. There are several causes of halation; one of them, the one that you seek by the black cloth to eliminate, is not light passing through the plate, and that might be so absorbed; but light that does not pass through, but is reflected from the back; light which does not reach the cloth, and over which the cloth has no influence. Backing, to have any influence over halation, must be in *optical* contact with back of the plate.—Eds.]

A PINHOLE PICTURE.

The accompanying print was made without a lens. I used my 5 x 7 "Premo," with lens and lens-board removed, and in their place a spare lens-board carrying a piece of black paper, in which I had made a pinhole with an ordinary pin. As the exposure was made on a dull afternoon in December I gave 10 minutes, but judging from the behavior of the plate in the developing solution, the time was unnecessarily long.

F. C. BAKER.

[For your class of work, a class which has met with favor in both the American and British Salons, the pinhole seems in every respect as suit-

"SPEAK, PERT!"
BY
E. M. MILLER

able as the lens. Our readers shall have an opportunity of judging for themselves, as we shall reproduce the picture referred to. It is No. 1139 of "Our Portfolio." The exposure seems to have been about correct, but the development might, with advantage, been carried just a little further. —Eps.]

IMPROVING LANTERN SLIDES.

Becoming a convert to your teaching in connection with lantern slides, and having a lot of what you call the "soot and whitewash" variety, I hit on the following method of improving them, and although they are not as good as if they had been properly made at first, the improvement is so great that I am induced to give your readers the benefit of it.

By F. C. Baker.

EXAMPLE OF ZIG ZAG COMPOSITION.

Dismount the slides and place each film to film with a slide plate, using the slide as a negative, and in a printing frame expose for a few seconds to the light of a lamp. Develop until there is a faint image, how faint or how strong will depend on the state of the slide, and will be learned by a few experiments. Mount, using the developed plate as a cover glass, and there you are.

R. W. HAMMOND.

A FOCUSING SCREEN.

Until recently I was greatly exercised by the difficulty of focusing microscopical objects (in photo-micrography) in consequence of the coarseness of the ground glass in the enlarging camera. I tried focusing in air, by cementing a cover glass with Canada balsam on the center of the focusing screen and using a magnifier, but even then I did not get satisfactory definition on account of colored fringes at the lines. On the suggestion of a friend I slightly exposed an ordinary plate, developed and fixed it, and the deposit was just sufficient to retain the image and make correct focusing a pleasure instead of a trial of the temper.

GEORGE H. SLIGHT.

A Modified Gum-Bichromate Printing Method.

By DR. MILLER.

(A Paper Read at a Meeting of the Photographic Society of Philadelphia.)

DR. MILLER proposed a modification of the gum-bichromate process, in which the gum is rendered partially insoluble before exposure, thus permitting the paper to be coated with the pigmented gum, dried, and then at any future time sensitized by immersing in a solution of potassium bichromate. This plan has the obvious advantage that the paper may be prepared ahead and kept on hand ready to print, except for the simple and quick operation of dipping. It also permits of the paper being coated and sold commercially, which would be a convenience to many amateurs. The process proposed was as follows:

STOCK SOLUTION A.

Water	100	c. c.
Best gum arabic	35	grams
Salicylic acid	0.25	grams

The above are dissolved with frequent stirring and without the aid of heat. This solution keeps in a closed bottle several months, and always acts like a fresh gum solution. It may advantageously be used in the ordinary gum process instead of making up a fresh solution every time a paper is to be coated.

STOCK SOLUTION B.

Chrom. alum	3	grams
Water	100	c. c.

This solution also keeps indefinitely. To make the coating solution take, for example:

A	10	c. c.
B	1	c. c.
Water	1	c. c.
Carbon black	0.1	gram

Grind thoroughly in a mortar, and coat the paper as usual. The grinding should be continued not less than five minutes, because the black does not mix readily with the gum and water, and if the separate particles of color are not individually embedded in and surrounded by the gum they will be driven by the pressure of the brush into the texture of the paper and more or less indelible staining will result, as would also be the case were we to use too little gum. After coating, the paper is allowed to become perfectly dry, when from the action of the chrome alum the film will be found almost insoluble in cold water. The paper so prepared will keep indefinitely or may be sensitized at once. This is done by soaking for a couple of minutes in a 5 per cent. solution of potassium bichromate, C. P. If the previous drying of the paper has not been perfect, the pigment will partially dissolve off in the sensitizing bath, but if properly prepared the coating will remain intact. It is, however, extremely tender when wet, so that care must be taken not to touch it with the fingers until it has again dried.

In printing give a long exposure, say from five to fifteen minutes in direct sunlight, and wash in cold water until all bichromate has been removed. The coating then may have become sufficiently tender to be developed by a soft camel's hair brush, or even by the simple friction of the water passing to and fro over the print as the tray is rocked. On the other hand, it may be necessary to continue the soaking for an hour or more, or even to use hot water before the desired tenderness is produced. This all depends on the exposure and the amount of chrome alum used. While the quantity given in the above formula is correct for the particular pigment specified, it will not necessarily be the best proportion to use with other colors. The object is always to use the least possible amount that will give the necessary resistance to the sensitizing bath. If so much be used that the film becomes really insoluble we cannot get pure whites, for the reason that those gum-surrounded particles which find their way into the meshes of the paper cannot be removed even by a brush until the gum envelope surrounding them and gluing them in has softened. The following may serve as illustrations of the variations which the proportions of the coating solution may undergo. Charcoal is capable of rendering excellent results where bold, rough effects are desired. Mealed charcoal is shaken through a wire-cloth screen of 200 meshes to the inch. The fine powder so obtained is ground up in a mortar in the following proportions:

A	10 c. c.
B	2 c. c.
Water	2 c. c.
Charcoal	1 gram

Or again:

A	10 c. c.
B	1 c. c.
Red chalk	0.5 gram

The list of colors may be extended indefinitely, but enough has been said as to enable any gum worker to prepare his own formulæ; and, after all is said, the exact proportions of the coating solution with any gum printing should depend largely upon the judgment of the operator, who knows better than any one else just what effects he is trying to produce.

In regard to the paper to be used, the only thing which it seems important to observe is that the more the sizing the greater will be the stain in the high lights; which apparent paradox is probably to be explained by the action of the chrome alum on the sizing, especially if the latter be gelatine. During the operation of coating the sizing swells under the influence of moisture and becomes closely adherent to the pigment. Now, gelatine is far more sensitive both to chrome alum and to the hardening action of bichromate and light than is gum, hence on drying the gelatine becomes permanently insoluble, and holds the color fast, just as the gum would do if we were to employ a very large proportion of chrome alum.

Before closing, there is one other point that might be mentioned. In making use of the above process one may most conveniently coat the paper by squeegeeing it. The paper is soaked for a few minutes in water until it becomes limp, then lifted out on a plate of hard rubber or glass, pressed smoothly down with a rubber squeegee, then gotten as dry as possible with blotting paper. This is all perfectly simple, and the paper lies so flat and firm that it can be coated with the greatest ease and certainty.

After finishing his remarks, Dr. Miller passed around a number of prints made by the process described. In the discussion which followed, Mr. Streeper said he thought that staining might be caused by the introduction of salicylic acid into the gum solution. While this would not affect carbon pigments, it would cause a stain with those containing iron, and therefore should not be used. Dr. Miller replied that he did not think any difficulty could arise from this source. The pigments used were insoluble, and therefore no action could take place. At all events, no violent discoloration such as the reaction in question would give rise to had ever been noticed, and he thought it perfectly safe to use the acid with any insoluble, inorganic pigment, and under this classification are included all pigments which for other reasons are at all suitable for gum printing.

The Making of a Half-Tone Engraving.

THE general introduction of photo-mechanical engraving processes has wrought a revolution in the publishing world. Possibly it has not been as far-reaching as regards books as in the case of periodicals, but it has changed entirely the character of many magazines and weekly papers, and now it is possible even for daily papers to make half-tone plates which are adapted for printing on octuple presses in a space of time which a few years ago would have seemed nothing less than marvelous. The new processes have permitted of double and treble the number of illustrations being used, owing to their comparative cheapness. As for the quality of the work, it is safe to say that these processes should be used, to the exclusion of all others, for reproducing works of art and certain classes of subjects in which the interposition of artists or artist-artisans is not desirable.

The very general adoption of the half-tone process for the illustration of high-class periodicals and books practically sounded the death-knell of wood engraving, which is fast becoming almost a lost art, having comparatively few exponents of note at the present writing, so that in a few years wood-engraving will be practiced, perhaps, only in art schools.

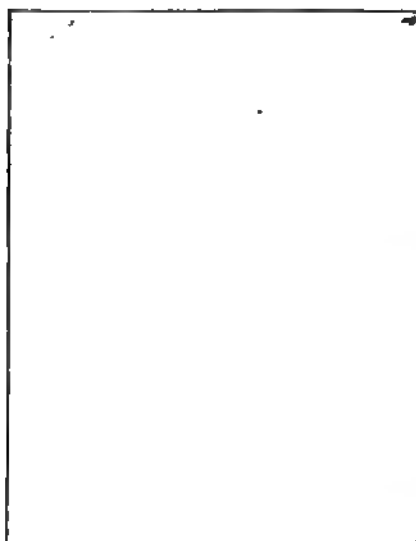
Omitting an historical outline of the steps by which the half-tone process has been developed, we will proceed at once to describe a thoroughly modern process establishment, taking up the various steps in the making of a half-tone plate, from the time the copy is placed before the camera until a reproduction of it is printed in the periodical. The plant which we have selected for the purpose of illustration is located on the fourteenth floor of a building devoted almost entirely to printing, and being next to the Brooklyn Bridge, the building enjoys remarkable advantages as to light. When the copy, which is usually a photograph or a wash drawing, is brought into the establishment, the requirements of the customer as to time of delivery, character of plate, fineness of screen, proofs, etc., are entered upon numbered cards, which are temporarily filed away (to later receive data as to size of plate and cost of making), the operative data on the cards being noted upon slips which follow the plates through the various stages of manipulation in the shop. If the photograph needs retouching it is sent to the retouching room, where several artists are employed. The retouching of photographs is practically a new profession, and the results which are obtained by this treatment are very remarkable. On a machinery subject it is possible for the retouching to exceed in cost five or ten times the expense of making the plate.

The copy is taken up to the photographic gallery, which occupies a mezzanine story immediately under the roof, where both daylight and electric light through powerful arc focusing lamps are available, the latter being used chiefly on cloudy days.

The first step in the production of a half-tone plate is the making of the half-tone negative, which differs from the ordinary dry-plate negative in that the half-tone image is recorded in the shape of a series of dots and spaces, due to the use of a finely-ruled glass screen. The camera beds are made very long, in order to obtain the proper reduction in cases where the copy is large and the

THE PHOTOGRAPH GALLERY.

desired plate small. The copy is fastened to the copy board, which stands vertically at right angles to the runway at one end of the camera bed, the latter being adjusted supported by springs attached to the stand proper, the object of the springs being to absorb vibration, or, to put it in another way, to insure the simultaneous vibration of the camera and copy, so that the relation of one to the other is absolutely the same throughout the time of exposure. Having moved the camera back and forth along the bed until the image is of the desired size, the camera is then firmly secured to the bed by a turn of a binding screw and the image is brought into sharp focus on the ground glass. The photographer is now ready to prepare his wet-plate, the wet-plate process being particularly adapted for photo-engraving purposes, owing to the facility with which it can be



FLOWING WITH COLLODION.

manipulated to get desired results. He takes a perfectly clean piece of glass, previously albumenized, free from dust, and flows over it a bromo-iodized collodion, obtaining an even coating by allowing the collodion to run off at one corner of the glass plate.

When the collodion sets, the plate is then sensitized by placing it in a silver nitrate bath. When sensitized the plate is put in the plate-holder and is then ready for the exposure. The process plate-holder is of special construction, and is adjustable so as to hold any size plate up to the limit for which the camera was designed. The holder also contains the ruled screen, which is

placed at a very short distance from the sensitized plate, between the latter and the lens, as indicated in the accompanying diagram. This diagram also serves in a measure to show how the production of the dots of the half-tone negative is effected.

The half-tone screen is made up of two plates of glass that have been carefully ruled on one side, the plates being cemented together, ruled side to ruled side, in such a way that while the lines are ruled diagonally across each plate, the lines of one plate run at right angles to those on the other when the two plates are put together, producing a mesh representing from 80 to 250 lines per inch. In making half-tone plates the coarseness of the screen employed depends upon the use for which the plate is intended. For a large number of periodicals the 175-line screen is one which gives general satisfaction, that screen having been used in making the engravings which accompany this article.

The dot in the half-tone negative represents the double effect of the

THE PLATE HOLDER.

screen and the diaphragm, which is inserted in the tube of the lens. The forms of some of the diaphragms are jealously guarded by photo-engravers. Square and round-hole diaphragms, as well as many other types are employed, as shown in our diagram, the kind of diaphragm used depending upon the effect desired in the negative. When the print from the half-tone block is examined, it will be found that the size of the dots and spaces vary, the dots being smallest in the high lights of the picture, growing larger in the dark portions, the inter-spaces growing correspondingly small, and disappearing entirely in the absolutely black parts of the picture. The form of the dot can also be modified by the use of different intensifiers. The first diaphragm to be used having been inserted in the lens tube, the plate holder having been secured in place

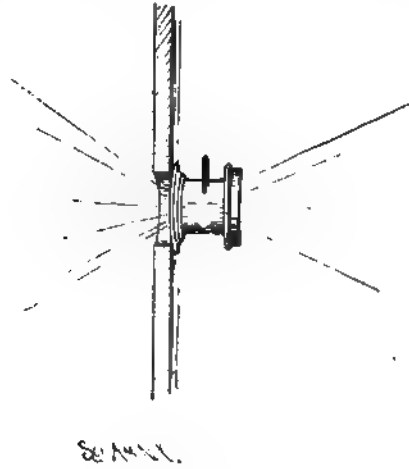
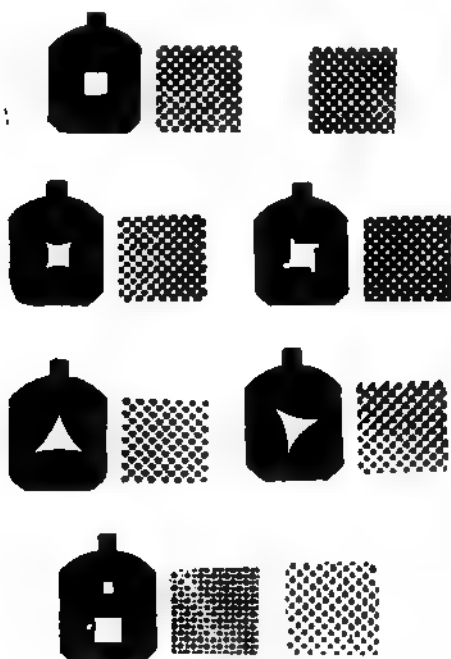


DIAGRAM SHOWING THE RELATIVE POSITION OF PLATE, SCREEN AND COPY.

and its slide drawn, the cap is removed from the lens and the exposure begins, the time of the exposure depending upon the character of the copy, intensity of light, effect to be secured, etc. At night, or when daylight is not sufficiently strong, electric light is used.

Having been exposed, the plate is taken to the dark room and developed, the kind of developer used depending upon the judgment or particular practice of the operator, the expert varying his manipulation with different subjects within surprisingly wide limits. The image appears in about five seconds, and the plate is fixed with a solution of potassium cyanide. If the negative is not of the required density it is intensified. The negative is allowed to dry, when it is coated with a

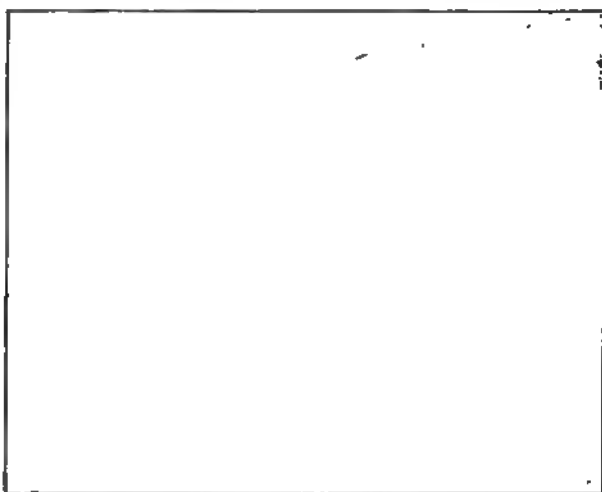


MODIFICATION OF THE DOT BY DIAPHRAGMS.

sharp knife, so that when placed in an acid bath for the purpose of loosening it from the glass the desired portion may be readily removed, reversed, and transferred to another and thicker glass plate, which is used in printing the picture on the sensitized copper.

Instead of by the troublesome and sometimes uncertain stripping, most engravers obtain reversal by exposing the image reflected by a mirror placed at the necessary angle in front

solution of rubber, and this coating is followed by another of collodion, for the purpose of securing greater body in the negative to permit of its being handled. In order to secure a printed image like the copy it is necessary to reverse the negative. Should the negative not be reversed, then the right hand side of the printed proof would represent the left hand side of the photographic copy. This is done by stripping the film from the plate. The glass is placed in a specially designed "squaring frame" having squared metal edges, and after adjusting the T-square and squaring the negative, as shown in one of our engravings, the portion of the film which it is desired to transfer for printing is cut with a



STRIPPING THE FILM.

of the lens, or, still better, through a prism in the same position.

The copper plates come already polished, but it is necessary to give them a high finish before using. This is accomplished by rubbing them with willow charcoal and water. The copper plate is dried and coated with a sensitizing solution, essentially a solution of fish glue and potassium bichromate—although

COATING THE COPPER.

the actual formula is frequently guarded as a valuable secret—which is flowed on in the same way as the collodion was on the glass plate. The copper plate is placed in an A-shaped clamp and the sensitized coating is evenly distributed over the plate by means of what is called the "whirler," the construction of which will be readily understood by reference to the engraving. The clamped plate is hung face downward toward the floor in a large box having a gas stove at the bottom, and is fastened to a swiveled wire support so that it can be whirled rapidly. The motion causes the coating to be evenly distributed by centrifugal action and at the same time the plate is dried. The half-tone printing frame does not differ materially from the ordinary photographic printing frame, except that it is much more strongly built and is heavier. In the front of the printing frame there is a sheet of plate glass about an inch thick. The negative is placed in the printing frame next to the front glass, with the face of the negative in

WHIRLING THE SENSITIZED COPPER PLATE.

contact with the sensitized copper plate. The back of the printing frame is then secured and by means of a number of hand screws great pressure is applied, so as to hold the copper plate in the closest possible contact with the negative.

Either daylight or electric light can be used for printing. In the latter method, the required exposure takes much more time than with daylight. When the plate is taken out it is placed under a jet of running water, by which means the image is developed.

Following development the copper plate is gripped with a pair

ROUTING THE PLATES.

of pliers and held over a gas stove, as indicated by one of our illustrations, for the purpose of "burning in" the image, after which process the plate is placed in an etching bath of chloride of iron, wherein it receives the first etch. What are termed flat proofs of the plate are then made on a "Washington" hand proving press, and if the flat proof indicates the presence of those qualities in the plate that has been sought, the plate then passes to the "router."

In the case of a vignettied subject, where the tint is allowed to die away around the edges, the plate is clamped in what is called a "routing" machine, which is designed to give a speed of three or four thousand



Polishing.

Developing



Burning in.

VARIOUS STAGES IN THE TREATMENT OF THE COPPER PLATE.

revolutions per minute to a small cutter whose section is varied according to the part of the work it is intended to perform. The routing machine, like all the other machinery of this establishment, is run by an independent electric motor. The router follows around the edges of the tint, cutting away all superfluous metal. Except in the case of silhouettes, there is little routing in subjects which are not vignetted, but in some cases the sky or background of a picture which is defective is removed by the router. In the case of what are known as "square" plates, a bevel groove is run all around the plate at a short distance from the printing edge, to allow for securing it to the wooden block on which

FINISHING AND PROVING PLATES.

it is to be mounted, and also to permit of the excess metal being readily cut off.

If an examination be made of most half-tone plates, it will be found that there is a black line bounding them, with a white line just inside the black one. Both lines, together with the grooving, are made on the

plate by a beveling machine, which is something like a planer and a milling machine combined. The plate is securely clamped to a movable bed, which is moved by hand, planer fashion, so as to bring the plate under a steel graver, which cuts the black line and the white line in the plate. The current is then turned on to the motor, causing a circular beveling cutter to rotate at a high rate of speed. The bed carrying the copper plate is then run under the cutter, which "mills" a groove. This is done with all four sides of the half-tone.

The plate is now ready for the "finishers," upon whose artistic judgment much of the success of the plate depends. The finishers "stop out" or paint out with asphaltum varnish those parts of the engraving which are not to be re-etched. In the accompanying illustration of the finishing operation, the workman on the left is engaged in painting out the locomotive, to the smallest detail, so that the background may be lightened by re-etching. The finishers take out all imperfections in the plate, improving it as compared with the original copy by means of roulettes, burnishers, and wood engravers' tools. The extreme high lights are often put in with the engravers' tools, a sample of which work will be seen in the cut of the grooving and scoring (technically styled "beveling") machine, in which the high lights are emphasized by white lines. The high lights of the picture having been re-etched, and the shadows burnished where necessary, in order to secure brilliancy without a sacrifice of the delicate middle tones, a proof of the plate thus "finished" is inspected and passed upon, the full quota of proofs are "pulled," and then the plate is ready for mounting or "blocking." Holes are drilled for the nails that are to secure the plate to the wooden block, which is cut to the proper size, the excess metal being cut away before blocking. Nothing but the best-seasoned maple, specially prepared, is used for blocking. Such, in brief, are the many and complicated steps necessary to make a satisfactory half-tone plate. It needs not only a considerable plant, but also expert and conscientious work at every step of the process. We are indebted to the *American Machinist Press*, whose photo-engraving plant we illustrate, for courtesies in the preparation of this article.—*Scientific American*.

In consequence of pressure on our space, "Our Table," "Notes" and several "Answers" have been unavoidably left out. They will appear in our next issue.

Photography and Art.

BY CLIFTON JOHNSTON.

[When what may be called the lay press attempts to deal with anything connected with photography it rarely brings anything but mirth to those who know better, but the following, which we quote from *The Saturday Evening Post*, so strikes the nail on the head, that we gladly give our readers the benefit of it.—Eds.]

IT is not easy to give a definition of art that is satisfactory to all persons; but I like to think of it as something that can be and is attained by every one of us. Whether in striving to make that which shall be beautiful, or in our prosaic every-day tasks, art enters when we labor thoughtfully with some ideal in view—that is, as soon as we cut loose from action that is purely mechanical. If I am right, there is art in washing dishes or in digging potatoes or in running a steam engine. There are opportunities for better, quicker, more agreeable ways of doing whatever we may undertake, and to the degree we discover and adopt these ways we attain art.

Photography is unusually replete with possibilities, and the greatest drawback to its reputation as an art is the ease with which it can be taken up and dallied with; for I fancy a good many snap the camera who could not wash dishes or dig potatoes, to say nothing of being artists in such tasks. Still, art of some sort is rarely wholly absent from a picture, though it may be as mistaken or as rudimentary as that of the savages.

EXPENSIVE CAMERAS ARE NOT NEEDED.

Poor work is sometimes the fault of the camera, yet an expensive outfit is by no means so essential in securing creditable results as is commonly imagined. One of the old Roman painters, I think it was Leonardo da Vinci, when asked, by a patron, for the pencil with which he had executed some especially fine detail on a beautiful drawing, picked up a pencil at random and handed it to his visitor. "This is the one," said he, meaning that they were all the same to him, and that it was the man, not the implement, which gave the picture its quality. So, in photography, the judgment with which you use your camera is of much more vital consequence than the machine itself or its equipment. My own favorite camera, one which I have carried many thousands of miles, did not cost over twenty-five dollars, including the lens. The size is 5 x 7. Larger than that I have found clumsy for doing, quickly and well, work which involves a great deal of traveling. Plates as small as 4 x 5 may be satisfactory for certain purposes, and prints even more diminutive serve for memoranda, but serious work can hardly be done with any camera of the toy order.

Taken altogether, 5 x 7 seems to me the ideal size for the general amateur. The proportions are pleasing, you can give a subject a fairly generous showing, and the expense involved is not so great that you are overtimid about wasting plates; for there is bound to be some waste, no matter how clever you are, and in the case of not a few of our button-pressers the proportion of failures is appalling. To avoid mistakes requires constant practice, a long memory and a judicial sense of the nicest balance. Photography is good discipline if you stick to it, and conquer success by thoroughly learning the pitfalls that lie in your path.

In buying a camera the exercise of economy does not, as I have said, necessarily mean a sacrifice of quality. Indeed, money put into an expensive lens buys brightness and hard glitter rather than an effect in the prints that is really artistic. If you want science and microscopic facts, get a hundred-dollar lens, but if you want atmosphere and a grateful sense of fluidity, a low-priced lens will usually answer better. Atmosphere is one of the most serious lacks of the ordinary photograph, and in securing it our most famous amateurs depend largely on manipulation of the plate in developing and printing, and still more on the manner in which they focus the subject. This last is a delicate matter and rarely is wholly successful, yet it is worthy of a great deal of experimenting on the part of the amateur, the effects being so beautiful when you get what you try for.

DISADVANTAGES OF TOO MUCH TRUTHFULNESS.

The art theory on which these out-of-focus pictures are made is, that what we see is seen as an impression, not in detail, and that the object which primarily takes our attention in this impression is more distinct than any of its surroundings. But the photograph, pure and unadulterated, brings to the eye all the detail and all the surroundings to the very edge of the print which nearly equal sharpness. This excess of truthfulness disappears by changing the focus from the main object or objects pictured, to a point a little nearer or more distant. The trouble is that usually you get an unpleasant, dizzy and blurred effect, very unlike the impression for which you tried. If the attempt succeeds, whatever forms the center of interest is fairly distinct without being harsh, while background and foreground are softly massive and suggestive of form and color, yet without a distracting definition of detail or outlines. Sympathetic perception and experience help to secure such pictures, and they can be made without a flaw in the simplicity and sweetness of the impression conveyed; but they are, after all, largely dependent on chance and luck.

A surer help to artistic photography, and one which has no drawback,

is the atmosphere furnished by nature on days of haze, when everything is veiled in blue. The haze masses things beautifully and gives gradations full of mystery and charm. Our days of brilliant sunshine and crystal charms were never meant for photography. You get no variety, no different planes, and the high lights and blotty shadows force themselves on the attention with disturbing insistence. Even a clouded day is much to be preferred to bright sunshine, and the effects obtained are often very strong and rich.

It is well to bear in mind that there is small possibility of getting any picture of value which includes our summer foliage on an ordinary fair day. Try it only in haze or under the clouds. This precaution is doubly needed if you attempt to photograph in the woods or in a tree-lined roadway. The dappling sunlight in the ferny forest dells, or the slender yellow rays gleaming down into the rocky hollow of a trout stream, are entrancing to the eye, but the contrasts are too violent for the camera, and you get only a disappointing muddle of blacks and whites. On a dull day, or just after sunset, you can do far better, if you take the precaution to give the plate enough time. One minute may suffice, and, again, fifteen minutes will not be too much. The chances are you will under rather than over expose. This should be guarded against.

FINE EFFECTS WITH CLOUDS AND SUNSHINE.

I have always liked to be out with my camera just after a storm that clears off with a breakup of the clouds into dark, windy masses alternating with blue sky and bursts of sunshine. I can then get just the masses of light and shadow that I wish in my landscape, and the sky is apt to photograph successfully, too. It is one of the serious shortcomings of the camera picture that the non-actinic blue of the sky makes it photograph blank, and that the lighter clouds disappear in it. This defect can be obviated by printing in clouds, but they rarely seem to fit the picture; and the printer, in his delight over the clouds, nearly always gives them an extra strength which makes them theatrical. One should endeavor to catch them as a part of the original picture when that can be done.

Skies are particularly essential in winter scenes. If you lose the sense of the whiteness and purity of the snow under the blue dome above, you lose more than half the charm. Clouds give the required contrast, yet if they are too dark the result is apt to be dull and lifeless. But select a time when the sun shines faintly through a thin cloud haze, without its usual dazzle, and conditions could hardly be bettered.

The ideal months, from a photographic point of view, are March for winter, May for spring, June for summer, and October for autumn. By

March the sun is getting well back north and helps, even behind the clouds, to give one's pictures snap and vitality, and you can pick out days when you can go about without freezing to death. Intense cold is fatal to photographic inspiration. April has its good points, but its bare twigs and sear earth are a little too cheerless for spring. The starting leafage of May and the blossoms and fresh greensward and moist skies are far preferable. I choose June for summer because the weather is not so hot as it will be later, and because vegetation, in its first fullness, has a pleasing lightness which it loses as it ripens and toughens. October, for autumn, has the interest of harvest time; the sunlight is tempered, the leaves are falling, and you get a variety in foliage no other season approaches. The contrast of trees, still full-leaved, with those partially bare and others wholly denuded, gives many opportunities for fine and poetic compositions.

JUDGMENT IN CHOOSING THE PICTURESQUE.

In selecting subjects, art requires that we should pick out those that have meaning and that convey the meaning forcibly. The interest in many, probably in most, subjects chosen by the average amateur is too slight to warrant such selection. It's not enough to photograph some pretty stream or rustic roadway; you must select some particularly attractive spot or the picture is commonplace. A repetition of the ordinary is hardly worth while. To illustrate again; if you photograph a farmhouse, it should be unusually picturesque or characteristic—one among a hundred, or, better still, one among a thousand. By the instinct you show for finding gems and knowing the best position from which to photograph them is determined your possession of the art sense or the lack of it. The shifting of the camera a few feet this side or that, front or back, often makes all the difference between poetry and prose. The problem is how to compel your central theme to speak most clearly and agreeably for itself. Bring in whatever you can to support, but get rid of all that forces the attention away from the story of the picture.

A jack-knife is frequently a great aid in improving foregrounds; for a foreground is ordinarily lacking in simplicity; and you do well to sacrifice a good share of the nearer bushes, twigs, weeds and stout grasses.

In studying composition care should be taken to avoid conflicting interests, such as are made by two important objects of equal size, or by strong spots, either light or dark, in different parts of the picture. Whatever is in any way so prominent as to attract the eye from the main thing pictured hurts the photograph. The center of interest should be near the middle of the picture, but rarely exactly in the center, as that tends to make the com-

position stiff and geometric. Contrast and variety in composition are always to be sought for.

THE BUGBEAR OF AIMING AT THE SUN.

One of the bugbears of the photographer is that it does not do to fire toward the light; but if you want art, rather than a report of facts, I should say that the oftener you point your camera sunward the better. Only through ample shadows can mass and simplicity ordinarily be attained, and confusion and flatness avoided. Of course, the lens must be shaded if you would spare yourself the ghosts that haunt the plates of careless sun-worshippers.

It is very desirable that a tripod camera should be employed wherever possible. It has not the compactness of a hand camera and cannot be carried about so easily or so readily be brought into action. But the latter is too haphazard; you can rarely study your subject properly in the finder; and the instantaneous exposure is usually too short.

Whatever works toward a good result helps to lift photography to an acknowledged place among the arts. As it is, it occupies a peculiar place, between a "fine art" and those processes which are distinctly mechanical. That it should be ranked as anything less than a fine art does not satisfy its partisans, while its critics find it so lacking in soul and ideality that they declare it belongs wholly to the realm of mechanics.

Probably, if all the work done in any given fine art could be gathered together, that which is really "fine" would make a pretty slim showing; and the same is true of photography. But in this, as well as in the others, there is a residue that has the charm of imagination and beauty. One need not claim that the camera can do all that a great artist can do with his brush, yet it is not too much to affirm that in its way, and in the hands of a master, it accomplishes noble results.

Normal development of a very much over exposed plate gives a thin, weak, and more or less fogged image, wanting in contrast and unfit to print, but an image that may be made the base, or foundation, on which to build to any desired density. After development in the usual way, the plate should be well washed and immersed for from five to ten minutes in a 5 per cent. solution of silver nitrate. It is then removed, and after draining, placed on a levelling stand, or held level in the hand, and the following solution poured on and off, as in the development of a wet collodion plate:

NO. 1.

Pyrogallol	48 grains.
Alcohol	1 ounce.

NO. 2.

Silver nitrate	25 grains.
Acid citric	50 grains.
Water	1 ounce.

To each ounce of water, just before using, add five drops each of numbers 1 and 2, and keep pouring it on and off the plate, or if on a levelling stand, keep the solution in motion by blowing, or gently tilting, till sufficient density is obtained.

Society News.

Secretaries of camera clubs or photographic societies or associations are respectfully requested to send to Dr. John Nicol, Tioga Centre, N. Y., reports of meetings, copies of papers that have been read before the members, or anything of general interest that they would like to appear in the journal.

THE CAMERA CLUB OF NEW YORK.

The regular monthly meeting was held on Tuesday evening, January 8, 1901. Owing to the illness of the President, Mr. R. A. B. Dayton was selected as chairman. Subsequently he vacated for the Vice-President, Mr. Chas. I. Berg, he being unavoidably detained from attending earlier. After the usual reports some discussion ensued as to the advisability of providing more matters of photographic interest for the information and entertainment of members at the monthly meetings, and a vote was passed that it was the wish of the Club that such matters be introduced and maintained.

On the evening of January 3, Mr. Hawes gave a lantern slide exhibition of a trip up the Thames, talking very entertainingly and humorously of the incidents. Most of the views were made with a pocket Kodak.

On January 19 the annual smoker was given at the club rooms, with the usual fun and amusement.

During the month a very interesting set of prints from the California Camera Club, of San Francisco, Cal., was on exhibition.

American Lantern Slide Interchange.

THE ORANGE, N. J., CAMERA CLUB.

The Orange Club has made a record in having got accepted for circulation during the first year of the new century 100 slides; and, what is better still, the set as a whole, is probably the best that we have had the pleasure of examining.

F. H. Gould leads off with a portrait of the President, an excellent slide, with only one little fault, the rather annoying light caused by the back of the chair rising above the left shoulder and impudently asserting its right to divide the attention between itself and the face.

W. S. Pulsford has five fine slides, although "A September Morning," 4, and "Madison Square at Night," 3, suffer from "the blues." The warm colors are effective. "The Drive," 5, is a picture in the true sense of the word, and "The Pasture," 6, is a fine example of lighting.

W. M. Cheney's "Monument," 10, would be thrown away as a failure by the "bare glassie" order of slide makers, but it is as fine a slide as is in the set, and on the screen beautifully effective. The portraits, 9 and 12, are also fine, although, for a large disc, on rather too large a scale. "Upper Passaic River," 11, is of the bare glass kind, and although a beautiful subject, suffers accordingly.

Charles Tournier has only one, but it is a beauty. "Bathing," 13, a cow standing in a sluggish stream, evidently watching the photographer, needs a good light, but is excellent both in technique and arrangement.

H. P. P. Rees has seven, all excellent subjects, and most of them good pictures. "Wistfulness," 14, a child seated among floral surroundings, earnestly regarding something outside the composition, is a very fine slide, and would have been still better with the sky lower in tone. The other six have the same fault, clear glass representing sky and water, but as in most of them, there is little comparatively of either, they show well on the screen.

Arthur Hewitt's "A Friend of the Daisies," 22, is a charming picture, and very fine slide; and his "Oxonian," 21, is a thoroughly characteristic portrait of equally fine technique.

H. R. Terhune's burning oil tanks, 23 and 24, are good examples of the "record of fact" phase of photography.

J. L. Yatman's "A Cove on the Lake," 25, is a beautiful picture, and fine slide, and the same may be said of "The Cut Through the Mountain" (26). In selection and technique they are equally fine and effective.

E. I. Apgar has eight landscapes, all very good, and mainly because he has learned not to fear what is so often called fog. "Mid Slush and Rain," 27, conveys the intended impression admirably. "A Day in June," 33, both as slide and picture, is very fine, and quite as much may be said of "Twins," 31, if only the reflection had been converted into a shadow by the disturbing of the water.

The Rev. Chas. Townsend has three very fine slides, all of the true pictorial order. "Dragging the Net," 36, is perhaps the best, and it is really fine. Pose, position, tone or values are all working together to produce a charming effect. Very fine, too, is "Man Smoking," 37. He is not smoking, however, but making the pipe smoke, but the local lighting is delightfully effective.

E. S. Butterfield's seven slides are also far above the average, both technically and pictorially. In "Waiting to Be Shod," 38, the horse evidently knows what he has come for, and holds his right fore foot up in readiness. Values here are just right. Very fine, too, is "Setting the Tire," 44; nor do we often see anything better than "Immortelles," 39.

W. Lord's three are more like the work of previous years; more than any of the others on the bare glass side, although "Sunshine and Snow," 47, is effective. In "A Country Road," 46, the points of high light are scattered all over the foliage.

G. E. Melendy has spoiled some fine slides by unsuccessful attempts at local coloring. "A Sunset Glow," 52, with a bright white luminous sky, has the water under it a deepish copper tint that is quite unnatural. "Thro' Woodland and Meadow," 51, with a fine sky, slightly bluish, the water is far too deep a blue—two really fine slides spoiled. But they are more than made up for by "Alone," 50, as fine a slide as there is in the set.

Dr. H. C. Close is strong in portraits, the best of which is "The Evening of Life," 53, best because values, texture, pose, and expression are faultless. The worst is "A Portrait Study," 56; worst because it has clear glass where texture

should have been, and the pose, although sometimes affected by third-class professionals, the hands clasped behind the head, placing the arms at almost two equal angles, suggests nothing so much as a two-handled vase. Some of the others are very fine, such as 54 and 59.

C. Hedge's "Evening," 62, is of little interest as a subject, a high sky-line giving a large stretch of uninteresting foreground, and a small bit of really fine sky. Reversed, it might have been a beauty, as the technique is excellent.

W. C. Barnes' "White Beeches," 63, is a telling slide that needed only a little longer exposure to be a gem, but the bare glass doing duty for sky, and seen through so many openings, give it a "spotty" look that materially lessens its value.

W. C. Metcalfe has four beautiful flower slides, each one better than another, equal indeed to anything of the kind we have ever seen. The image is a darkish green, which gives a more close appearance to nature than could any other shade or color. We cannot imagine anything more perfect than the "Iris," 67, and "Narcissus," 66. Very fine, too, is his "Ready for Work," 65, a milkmaid with stool and pail at the byre door. Mr. Metcalfe binds with white tape, which seems a decided improvement on the usual paper binding slips.

J. A. Haddock's "Ross Castle," 73, is flat; longer development would have greatly improved it. The "R. R. Station," 71, is too hard and too "bare glassy," and the same may be said of his fine subject, "Old Street, Lucerne," 70.

F. N. Lord has thirteen, all fine subjects, well selected, but with a tendency to bare glass skies, and bare glass where half-lights only should have been. "The Pool," 79, and "Raking Hay," 81, are examples. On the other hand, "Cud of Contentment," 85, and "In the Pasture," 76, in which the fault is not so apparent, are fine slides.

T. J. Preston, Jr., has eleven, mostly foreign subjects, but evidently from negatives hardly equal to those from which the commercial cathedral sets are generally made. One of his best is "In France," 89. "Harlem Cathedral," 92, for example, is wanting in contrast, and even more so, "Canterbury," 94, while in "Marken, Holland," 93, nearly bare glass does duty for both sky and water.

Chas. H. Ackerman's three slides make an excellent wind up to an excellent set, although the "Threescore and Ten," 98, looks as if he wanted a decade of that venerable age. Its technique is perfect. "Lighting his Pipe," 99, is a triumph in local lighting, and "Good Night," 100, a little girl with night dress and candle, needed only a little dodging of the negative so as to suggest the luminosity of a lighted candle, to make it perfect.

Taking it all in all, the twenty-one slide makers represented in this set are considerably in advance of the club's representatives in the past, or, for that matter, of almost all the members of the Interchange. The almost universal departure from the hard limited gradation, the "brilliant" white and black of the professional slide is encouraging. Good, too, is the departure from the monotony of the simple black by toning to various shades of warm browns and reds, and even the colder blues, although the latter was, in some cases, a little overdone.

NEWARK, N. J., CAMERA CLUB.

The Newark Club has got accepted forty-six slides by ten members.

Wm. Archibald leads off with twenty, all good subjects, although not of equal technique. Some have bare glass, where bare glass should not be where high-class slides is the aim, but there are others, such as "A Dusty Road," 34, that leave noth-

ing to be desired. Fine, too, very fine is "Scene in Ramapo Mountains," 30, and hardly less so are the figure slides, 32, 33, and 45. "The Plowman," 29, is a fine slide, although the clouds are too faint to appear on the screen. The "Old Water Tower," 41, is a type of quite a number with sufficient bare glass to very much lessen their value.

H. Eberhardt's six, mostly foreign architecture, are fairly good examples of the professional slide—clean, clear, sharp, but with clear glass, instead of lower lights.

M. I. Anson's six are very, very much better, and in most cases all the difference is in what is too often called "fog," but it gives a charm on the screen altogether wanting in the clear glass variety. "Mickle-Gate," 12, for example, although it includes a large expanse of unclouded sky, it is so low in tone—looks, when laid on this sheet, as if smoked—as to be, on the screen, delightful. "An Irish Cottage," 11, with its fine cloudy sky, is one of the best in the set, and "Scarboro' Castle," 14, with its blank but toned down sky, is almost as effective.

B. A. Robinson also knows the value of lowering the tone of the sky. His "Dot and Rover," 10, has not a trace of clear glass, not even in the white dress of the child and is an effective slide. So, too, is "October," 4, and it would have been still more so had the sky been farther developed.

Dr. W. M. Goodwin's "Dogs at Play," 24, might have been very much improved by longer development. What seems to be sand and surf is so weak as to be as much lost on the screen as if it were bare glass.

W. S. Norris, in "Sunset," 7, has a very beautiful picture, and with a good light, the effect is charming.

E. O. Chase has, in "A Jersey Roadside," 9, a fine subject, and a good slide of the professional quality. With properly graded lower lights, instead of most of the bare glass, it would have been a gem. His "On the Shinnecock Hills," 8, is an attractive subject spoiled by a large expanse of bare glass instead of sky.

W. Hoesley's two slides are good subjects, with the same fault and to the same extent.

W. W. Van Duyen's "Circus Parade," 23, a string of elephants passing along a street, has, of course, no claim to the pictorial or the picturesque, but as a slide its technique is perfect.

The slides of the Newark Club, following our examination of the set from Orange, are a little disappointing. There are among them some very fine examples, and as a set it is a decided improvement on previous contributions; but we had looked for a still greater advance.

THE PHOTOGRAPHIC SOCIETY OF PHILADELPHIA.

This society is represented by sixty-four slides by twenty-nine members, an advance in the number of both slides and slide makers, and also a considerable advance in quality, although the set still includes a larger number of what may be classed as commercial slides than we care to see.

H. P. Bailey's seven are even in a technique very nearly what we are anxious to see; just a share too much on the bare glass side. "On the Beach," 52, with its fine cloudy sky, needed just a little more development to be perfect. Quite as much may be said of "An Old Timer," 48, and "A Powerful Fine Cigar," 50.

E. Collins' "Aunt Phoebe," 66, is good, and would have been better if less flat; a shade more development would have been an improvement.

Prescott Adamson has four very fine slides, each so good that it is difficult to say

that one is better than another. "Twilight on the River," 55, might be taken as a type or example up to which to work, and "Day After Blizzard," 56, shows how snow can and should be represented.

Edmund Stirling, in "Sewing," 68, has a slide as nearly perfect as we may hope to see, both from a technical and pictorial point of view. It is a masterly example of lighting. "The Last Streak," 70, is also a charming picture and very high class slide; but the "Drawing Lesson," 69, is thin and weak; it needed longer development.

Mathilde Weil has made a slide from her well-known and beautiful "Across the Fields," 58, but the bare glass sky considerably lessens its value. We interposed between it and the condenser a glass just grayed by exposing a slide plate for a short time to light and develop it, and the effect was wonderfully improved.

F. P. Streeper's "A Stormy Day," 79, conveys the desired impression admirably, and would have been still better with a lower tone. The gray glass also improves it.

Geo. D. Firmin's "Requies," 85, is from his well-known picture, and loses nothing in its slide form. It is an excellent picture and fine slide, a fine example of local lighting.

T. H. McFarland's "Where Trilliums Grow," 71, although not of much interest, is a very effective slide.

W. H. Patterson's three slides are all too much on the bare glass side, and the pity is all the more because of the rare excellence of the subjects. Middle-tint and all above it are simply clear glass. We know that such slides "bring down the house" with a popular audience, but the amateur pictorial slide maker should aim at something higher, no matter how difficult of attainment.

W. H. Rau, although with a tendency to the average professional slide, has in "Bronze Lantern and Plate," 108, a very fine slide, with a beautiful, but slightly weak, cloudy sky. Fine, too, is "French Side of Tête Noire Pass," 105, and still better, "Uri Rothstock," 106.

S. Hudson Chapman's "La Scala Mission," 62, is a fine subject, but with bare glass, instead of lower lights. "In the Refectory," 63, is much better, indeed a fine slide.

W. H. Ingram's "The Forge," 64, is a good attempt at local lighting, and would have been better if the light on the back of the smith had been much lower. Two such lights of equal intensity divide the interest.

E. W. Borden's "In the Upper Wissahickon," 65, is simply white and black; bare glass everywhere where there should have been none.

G. and W. S. Vaux, Jr., are well to the front in slide making, showing five very fine examples. "Mt. Sir Donald," 74, is a picture after our own heart, and equally fine is "Mists on the Wapta Field," 76.

C. R. Pancoast sends but one, but it is a beauty, "Becalmed," 78. It is an example of heroic and successful trimming, and on the screen, one of the most effective of the set.

Joseph C. Roop has in "Whirlpool and Gorge," 77, a fine subject, spoiled by a large bare glass sky, and the same may be said of Henry Troth's "Old Houses," 89.

W. H. Nicholson's "West Wind," 90, does not in any way suggest the title, although a very effective slide. The cover glass is tinted a deepish orange red, an idea worth experimenting with.

E. H. Sambora's "Before the Wind," 86, is a good slide, with water much better than the average of such subjects, but the sky is too thin. The grayed glass improves it very much.

Dr. Geo. W. Norris shows two very effective slides, 103 x 104, effective because of fine skies. W. H. Robert's "Chillon Castle," 88, only needed something else than bare glass for sky and water to make it a fine slide. The "Turkish and American Buildings Illuminated" is a technical success, but of little pictorial interest.

W. N. Jennings has four effective slides, "A Wet Night in Picadilly Circus," 81, is telling, and equally so would be "A Wet Day in Trafalgar Square," 82, but for the utter falsity of its bare glass sky. "Brown Fog," 84, is an excellent suggestion of such fogs as we have seen both in London and Glasgow.

M. C. Morris' "Summit of Rochers, De Maye," 80, is much too hard, simply white and black.

John G. Bullock's "Loading Hay," 91, is a fine subject and a fine slide, and quite as much may be said of C. H. Baker's "Snow Scene," 94. It is rare indeed to see snow so well photographed.

A. W. Tillinghast's "Vale of St. John," 92, with sheep and distant mountains, needs only a lower toned sky to be perfect; but there is nothing but the umbrella to suggest "A Wet Day," 93, although otherwise a good slide.

Eva L. Watson's "Flag's Design," 95, is an artistically arranged decoration, and technically a fine slide.

Mary Vaux has three very fine subjects, but all wanting in the necessary contrast. They are flat from under development. Sufficient development would have made them of a very high class.

Elizabeth C. White's "Spider Web," 99, has the same fault. Her "White Swamp Cedar," 100, could not have been better, and almost as much may be said of her "Cookies," 101.

While the set as a whole is an improvement on any of its predecessors, and affords ample evidence of pictorial aim in most of the negatives from which it has been made, the tendency to represent the *whole* of the lights by bare glass is still far too much in evidence. It should never be forgotten that in nature there is little, very little, that is purely white, and nothing but the highest of high lights should, in a slide, be bare glass.

During the month of January the Oregon Camera Club, of Portland, Oregon, was re-admitted to the Interchange. The sets of slides for the season of 1901 were completed, and are as follows: Brooklyn, Grand Junction (Colorado) and Douai French Society slides; Buffalo, Syracuse and Chicago; Hamilton and Toronto; Orange; St. Paul and Washington (Capital Camera Club); Bethlehem and Montclair; Newark and Philadelphia; San Diego and Pittsburg; Los Angeles and Minneapolis; Detroit, Troy and Reading; Albany, Frankford, New Britain and Trenton; Montreal, Oregon and California, and a special set of 150 American slides which was sent to France and Japan in 1895 and returned at San Francisco in January of this year, having made the circuit of the globe.

Our Portfolio.

Communications for the editors, pictures for criticism (only one print at a time) and apparatus and material for examination, should be sent to Dr. John Nicol, Tioga Centre, N. Y.

1119. ANDREW EMERINE, JR.—"The Goldenrod Girl." The effort here is much more creditable than the success, and the cause is the neglect of three factors which, in this kind of work should never be forgotten. (1) The action or expression should

suggest the title, the title should never be needed to suggest the action or the expression. (2) The figure, unless you want to suggest a giantess, should never be quite up to the top of the plate, just as, unless you want to suggest a dwarf, it should never be too far below it. And (3) no matter what the suggestion or emotion sought to be conveyed, the figure should never be dressed in the mode of the present time, whatever it may be. Fashions are proverbially fickle, and generally far from artistic; and the fashion of to-day, witness the ugly winding up of the beautiful neck, will be the laughing stock of to-morrow.

In all three the Goldenrod Girl sins, nor is there the slightest connection between her expression or her pose, and the flowers that she carries. Then, the want of definition in the lower part of the figure is doubtless intentional, and is right, but want of definition is not best obtained by leaving the parts in simple blackness from under exposure, as is the case here. You have done very much better before, and will do it again, but you must give longer exposure and more thought to what you may consider little things, and never forget that little things go far to the making or marring of a picture.

1120. F. C. BAKER—"A Toiler," a workman plodding his weary way home with, on his back, a bundle of sticks. We hardly know why, but we feel that he is a lonely man who will meet no welcoming smile, and who will have to cook his supper with the bundle on his back. Like almost all your work, it is rather deeply printed, but the effect is satisfactory, and we shall have pleasure in its reproduction.

1121. C. DELKER—"Mountain Falls," a mass of rugged rocks and rushing water, might have been made a good reproduction of fact, although hardly a picture, but is rendered worthless from under exposure, the rocks being simply blackened paper, and the water like as much cotton wool. It is a difficult subject, but better leave it alone than do it as it is done here.

1122. H. D. MCBRIDE—"A Ray of Sunshine" is surely sent by way of a joke, and if so we hope it will not be repeated, as we have no time to spare. It is a piece of blackened paper with a few white streaks that may or may not be branches, and a few, very few, white patches that may or may not be the upper faces of stones slightly touched by light. Whatever they may be, as a photograph it is utterly meaningless and a waste of good material.

1123. E. W. HUEBUL—"Yankee Boy," a boy sitting on a doorstep "whittling" is a very fine photograph, and a good picture, in which almost everything is just as it should be. Pose, lighting, expression, the latter strongly conveying the impression that the little fellow is deep in thought over some problem; and best of all, in this time of short exposures, the values are perfectly true. There has just been one little oversight, the foreground is nicely broken up with whittlings, but there is no indication from whence they have come. The stick, a few inches of a thickish branch, is as yet uncut, although the knife rests on it, showing unmistakably that the whittlings have been placed there on purpose, and conveying the idea of repose rather than action. The stick should have been half whittled.

1124. OSCAR J. MORSE—"Balance Rock" belongs to the record of fact phase of photography, and need not be noticed from a pictorial point of view. The principal feature of that phase should be good technique, perfect definition, and true values. This has a want of sufficient detail in the shadows, especially the large shadow under the rock, and there is a uselessly large space of bare foreground. The lens should have been placed so as to give an inch and a half less foreground, and that much

added to the sky; and the exposure should have been long enough to have given more detail in the shadows.

1125. J. V. STREET.—"Row, Row Your Boat," etc., is a well selected subject, and from probably the best point of view, but the development has not been nearly sufficient, sky and water being far too low in tone, and the foliage is simply black. There is evidence, also, that the lens is of far too short focus for the subject, as, if the boat, the bow of which just enters in the right foreground, were to be all included, it would fill the whole of the space up to the middle distance. Intensification might improve it, but it is always better to carry development far enough in the first instance.

1126. F. S. KEILER.—"Study of a Face," a hooded head, in which the effort is more creditable than the success. The lighting is too hard, and there is an entire want of texture in the face, the skin being represented simply by white paper. We like the arrangement, although the eyeballs seem just a little too high, and probably a longer exposure might have given just the necessary texture, without which such subjects are never a success. Try again, and see that you get some transparency in the shadows. You never saw in nature such a black nose as you have given your model.

1127. G. T. POWER.—"The House on the Hill." Your ambition is as high as your house, and you have very nearly made a success. You have got that rare quality, atmosphere, but there is no suggestion as to how the house is to be reached, and there never was a sky so white as you have rendered this. Then, it is all equally hazy, not a point on which the eye is invited or led to rest, so that, like the dove from the ark, it wanders about everywhere. This kind of work requires more study than this has got, although you are working in the right direction, and will ultimately find your efforts rewarded.

1128. O. MANWARRING.—"Before Breakfast," but a more suggestive title would have been "Interested in the News," as the gentleman is poring over the morning paper in little more than shirt and trousers. It is good. Pose and expression are fine, and the values are as nearly correct as may be, while the few surroundings are subdued to an extent that lets the eye rest on the objective point without effort. We have the pleasure of reproducing it on page 57.

1129. R. H. CLARK.—"A Moment of Interest," a young man, gun in hand, earnestly watching for the moment to raise the weapon and fire, is excellent in design and execution so far as it goes. The pose is natural, evidently studied to some purpose, and the photography is also good. But, alas, the whole is spoiled by including far too much. The real picture, and it is really fine, is contained in 3 x 4 inches of the 5 x 8, and the twelve inches of beauty are altogether buried in the twenty-eight inches of not only useless, but distracting matter. It should have been an upright, and the camera near enough to suitably fill the place, giving a larger space between the head and upper margin, and including only what is now contained in the 3 x 4 inches. The present print would be wonderfully improved by trimming 3½ from the left, 1½ from the right, and 1 inch from the bottom. We reproduce it after trimming as an object lesson on page 61.

1130. W. G. HELWIG.—"Feeding the Chickens" is as nearly as may be a perfect example of the record of fact phase of photography, not by any means the least valuable of its phases, as we have in this true values, a satisfactory arrangement, and a real feeling of feathers. It is just the kind of photograph that a few years ago would have been awarded a prize in almost any of the exhibitions, but now such

perfect technique counts little compared with what is called true pictorial value. Here, all that there is seen and understood at a glance, while a picture must suggest more than it shows. See page 51.

1131. C. W. CORBIN.—“Chess.” In this your ambition has been greater than your execution, partly for want of sufficient thought, and partly because you aimed too high. The first thought as we watch the two starting the game, is that something is about to happen to the walls. The vertical lines on the left are all right, but by the time we get to the right they are off the perpendicular by some six or eight degrees, a result of the lens having made to look down. Then, because the plate was not backed halation has obliterated even the suggestion of detail all round the two windows on the right, and given a slightly fogged appearance that in a landscape would have suggested atmosphere, a suggestion not admissible in an interior. It is hardly possible to make a good picture with one or more windows in front of the camera without getting just the result you have in this, a hardness of lighting that is, for an interior, altogether unnatural. Still, a longer exposure, say thirty instead of sixteen seconds, would have enabled you to get all the detail in the shadows that you have, without developing so far as to make faces and everything else in the light quite white. The idea and the arrangement are satisfactory, but when you try again, use a backed plate, see that the camera is level, give a longer exposure, and, above all, do not have windows facing the camera.

1132. FRANK S. DOBBINS.—“An Italian Scene Seen in Philadelphia.” This is one of the very, very few snap-shots that come to us that is worth looking at; partly because the lens was working at twice the ordinary rapidity, and partly because there were no really dark shadows in the subject, and therefore it has the rare merit of being sufficiently exposed. The view is on the plaza by the City Hall, with the Wanamaker and the Betz buildings in the background, and the effect is truly Italian. The strong point in the composition is a street sweeper’s barrow with a boy standing beside it, and unfortunately the boy is the weak point; he is staring at the camera. In spite of that, however, it is a good picture that we shall have pleasure in reproducing.

1133. W. H. CRAIG.—“Evening in the Pasture,” an impressionistic picture of the right kind, and very great improvement on your former effort. The low toned sky, with just sufficient luminosity towards the horizon to lightly tint the backs of the sheep and relieve the otherwise too dark trees in the middle distance. It is an excellent picture of its kind that we shall be glad to reproduce.

1134. W. I. PRENTISS.—“Late Autumn,” a few corn shocks in the foreground, a row of trees in the distance, and a low-toned sky is not an interesting or picturesque subject; and it is all too gray and wanting in contrast. It contains neither a spot of light nor deep shadow, and although in nature there is little of either, there are few good pictures without a little of each, and certainly both were needed here. Intensification might improve this, but try to develop for a little greater contrast.

1135. J. B. HILL.—“The Road From School” is a good subject, although it would have been better to show the root, or rather the base of the large tree on the right. It is rendered worthless, however, by under exposure, the shadows being simply blacks and the sky the whitest of white paper, which seen through the leaves, appear as patches of the highest of high light scattered all over. Instead of half a second with $f/32$, it should have at least got that time with $f/8$, which would have been about sixteen times as much. Or if by “stop 32” you mean the U. S.

No. 32, which is $f/22$, it would be equal to eight times the exposure, and with that and proper development you might have made this an excellent picture.

1136. G. I. HAYS.—“Monsieur le Cure,” a patient in one of our State Insane Asylums, who imagines himself one of the dignitaries of the church, only needed a little more exposure to be a very fine portrait, but as it is, the shadows are just a little too deep. Pose and expression are very good, and the print is trimmed to the best advantage. Thanks for the photograph of sculpture, the work of a patient. It is a creditable production. Where a cure is possible, nothing contributes to it more than allowing a patient to so exercise his abilities.

1137. S. B. CHALLIONER.—“His First Cigar.” A boy, if he had not been quite so clean, a printer’s devil, probably sent out with the beer jug and got the cigar for his trouble, in more senses than one. You have done well, pose and expression, the perfect satisfaction of manly feeling, little thinking of the sickness that will follow; all work together to make a really fine picture. The one fault is a little too great contrast, a little want of texture in the face and bare arms; and that would be largely at least overcome by printing on a toned paper. We should like to reproduce it, but Uncle Sam’s messengers have so broken it in transit that it cannot be done unless you send another copy, and if you do, mount on a much smaller card, and mark it 1137.

1138. CARL DISTLER.—“The Old Fence.” In this you have got back to your old and better style, and have a really fine picture that we shall be glad to reproduce. We only wish that the home on the rising ground had been a little, just a little, nearer the center or middle of the picture, and we should have been glad to see the straight piece of fence now lying on the ground on the left, removed. It does no good, and distracts the attention from other and more important objects. A slight improvement also would have been a lower tone on the lower part of the sky on the left. See page 32.

1139. F. C. BAKER.—“The Edge of the Woods,” a pin-hole exposure, and an excellent example of what may be done in that way. Your work is now so well known that we need only say that this is quite up to your usual mark, and that we reproduce it on page 60.

1140. F. P. FOLLES.—The unnamed print is not an interesting or pictorial subject; and, as photographed, is a meaningless conglomeration of rocks and water. As a photograph it is fairly good, only the lights are too white and the darks too dark. A longer exposure was necessary to give anything like true values.

1141. ARTHUR S. HAIGH.—“The Silver Lining” is the best thing that you have as yet sent; it is really a fine picture, with just one rather serious fault, an excess of useless foreground, and the horizon in the middle, where it should never be unless there is some good reason. Three-quarters of an inch trimmed from the foreground would be a decided improvement. We shall reproduce it.

1142. HELEN L. GRISWOLD.—“October.” We have kept this before us for some time in the expectation that it would “grow” on us, that we might see in it what you saw that induced you to photograph it, but without much success. We have also shown it to two friends in whose judgment we have more confidence than in our own, but they have not given us much help. The photography is good, the values fairly true, and the somewhat rare quality, the atmosphere, is well indicated, and yet there does not seem enough, or rather there is something wanting to make it a picture. It is a field of corn in the shock, shocks and stubble running in parallel lines at an angle, and contrasted only by a distant line of trees, the limits of the field;

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within the distance and on the right a rising ground. The whole is capped by a fine sky, low enough in tone to suggest a dull day, and it suggests it very well. If the subject had to be photographed, it could not have been better done, nor from a better point of view, but we cannot quite feel that the subject was worth all the skill that was given to it. There is, so far as we can see, neither objective point nor *motif*, nothing on which either eye or the mind can rest.

1143. A. G. GRAFF.—The last sentence in the reply to 1142 applies equally to your unnamed print; indeed, the whole answer, with very slight modification, might be made to do. Yours is also a corn field with a fairly good sky, but you have in addition a few trees and a barn. Your technique is not quite so good, simply because you stopped the development just a shade too soon, resulting in a want of contrast. Intensification would be an improvement, but nothing will make up for the want of a *motif*, or some particular point to which all else should lead, and should suggest a title. Had we been photographing this subject we should have made it an upright, excluding all on the left up to and including the tallish trees at the left of the barn, and filled the plate with what would be left. The larger scale would be much more effective, and you would have had a much finer picture, especially if you could have found a suitable figure in the barn door.

1144. E. W. HANSON.—The unnamed print is hardly worth a name, as sky and water are simply the whitest of white paper; indeed, we only know that water is intended by the fact there is on it a boat and the reflection of some trees. The subject is good, and might have been made a fine picture, but you must expose long enough to get what detail you want before sky and water are made in the negative quite opaque. There are no such whites and blacks in nature as you have here.

1145. CHESTER W. LARNER.—The unnamed print is an excellent subject, very nearly well photographed. The white sky is, as you say, a serious fault, so serious as to spoil the otherwise fine effect; and the pity is all the greater, as only a little more exposure was needed to make it just what it should be. In forcing development so as to secure what detail there is on the left you have got opacity not only in the sky, but also on the beautiful foliage on the right. See "Contribution Box."

1146. ALICE MERRIAM.—"Roses" is a very good example of flower photography, so far as the technique is concerned; indeed, better than anything that we have seen for some time; but the arrangement might have been much more effective. The shaded background is a serious fault, and the white tablecover is as bad. Then, the roses are top-heavy toward the left, giving a feeling that they are about to tumble. Try again, use a plain background, a darker tablecover, arrange the flowers so as to give a feeling of stability, and do not develop quite so far—that is, try to get nearer to the correct tonality of both leaves and flowers. With orthochromatic plates and a color screen you will do excellent work.

1147. L. E. COY.—"A Woodland Path" is a fine subject from probably the very best point of view, but it could hardly have been worse photographed if you had tried. Path and sky are simply white paper, and points of white are scattered all over as if from a pepper box. Then, if the print had been otherwise passable, its effect would have been very much lessened by the "cushion mask" under which it has been printed, giving it the appearance of the old teatrays that used to adorn the cottages of the humble in the long, long ago.

1148. J. A. GLASSEY.—"Surf." The surf in this is certainly fine, but surf alone, at least as represented here, does not make a picture, and there is little

else to help it. The trimming, so as to leave only a narrow strip of sky, is rather against it, and while there must have been pretty large waves to cause it, the sea seems as quiet as a lake or a mirror. Still worse is the false values, the rocks on which the waves are supposed to break being, on the sides in the shade, simply blackened paper. Still, sufficient exposure—that is, exposure with a lens working at a larger aperture, might have made it a beautiful picture, and with a suitable sky, more of it, and with suitable clouds, one of the gems of the season. We reproduce it as an excellent object lesson on page 53.

1149. DR. A. M. SUTTON.—“Winter on the Mill Creek” is a fairly good photograph of an uninteresting subject. There is neither *motif* nor suggestion, nothing indeed that should have induced you to spend a plate on it. Such small plates are better adapted for simple subjects close at hand. Photograph of snow scenes should always be taken when the sun is low, so as to get cast shadows.

1150. H. MACBETH.—“The Clam Digger” is a fairly good selection, but the photography is at fault; too flat or without contrast, and so not interesting. It is neither a seapiece with a figure nor a figure with a seapiece; something between and something not satisfactory, as the eye does not know which to rest on, and so wanders from one to the other. Try for more correct values, and more variety of tone, a larger degree of gradation.

Recent Patents and Trade Marks.

The following digests were furnished by Messrs. Davis & Davis, patent attorneys, of Washington, D. C., and at St. Paul Building, Broadway and Park Row, New York.

JOHN G. BAKER, Philadelphia, Pa.

Print Holder. No. 661,840.

In the face of a block of rigid material are formed intersecting grooves which extend throughout a greater portion of the area of the block and form supporting posts or lugs which support the print, and an air-exhausting tube is connected to these grooves.

SAMUEL T. CRISSY, Hackensack, and WILLIAM DULLES, JR., Englewood, N. J., assignor to the Appert Glass Company, New York City.

Plate Rack. No. 662,167.

The rack consists of a horizontal rod shaped to follow the contour of a cross-section of a tank, and a vertical rod shaped to follow the contour of a vertical section of a tank, said rods being joined together and each carrying a series of grooved strips which receive the bottom and side edges of the plates.

CHARLES P. MAGAGNOS and WILLIAM H. FULTON, Alameda, Cal.

Finder. No. 662,363.

The camera box is provided with a sight way and a finder is pivotally mounted below the sight way, and an external pointer indicates on a scale the position of the finder with respect to the camera box, and a similar pointer indicates the position of the main lens with respect to the finder.

PAUL J. STUPARICH, San Francisco, Cal.

Process of Producing Photographic Mounts. No. 662,579.

This process consists in removing the center from the printing plate and applying a shaded ink to the remaining portion of the plate, to form a deepening tint from

one side or angle to the other, and bounding an uncolored center, and finally impressing the plate upon a card placed to receive the impression.

CARROLL H. PRATT and ALVIN D. COPELAND, Springfield, Mass.

Plate Magazine for Cameras. No. 662,696.

A series of plate-holding frames are mounted in a plate-holding box and a slide box having an in-and-out movement is connected to the plate-holding box by a flexible tube and is adapted to cover the plate-holding box. Devices are mounted within the slide box, whereby the plates may be transferred from one side to the other of the plate-holding box by the in-and-out movement of the slide box.

Answers to Correspondents.

Correspondents are requested to notice that communications intended for the editors should be addressed to Dr. John Nicol, Tioga Centre, N. Y.

R. M. NAISMITH.—You need not send the instrument; we know just what it can and cannot do. True stereoscopic effect cannot be got from a single picture, nor from two prints from the same negative, no matter how or through what it or they are examined. For the same reason we should not care to print the descriptive article; indeed we never undertake to print what we have not seen.

ALISON RAMSAY.—Thanks for the suggestion, but we have had it under consideration several times. The answers already occupy more of our space than we can willingly spare without also printing the questions, but we try in the former to give our readers an idea of the nature of the latter.

WILL S. CARTER.—For pictorial work the one is just as good as the other. The principal feature of a lens for pictorial work is its focal length, which, as we have often said, should not be less than once and a half the length of the longest way of the plate. Of course, where money is no object, one of the anastigmatic family is to be preferred, but where economy must be studied, and where only the pictorial is aimed at, a good rectilinear will give absolutely as good work as the best anastigmat.

H. H. WILSON.—By symmetrical is meant that both front and back lenses are practically alike, and about the same focal length, while in a lens that is non-symmetrical they are of different lengths, thus giving really what is equal to three lenses. Both the elements of the lens you name are corrected, and may be used with advantage as single lenses.

PHD.—We do not undertake to decide bets, but may say that you are both wrong. The pyro, or other reducer, only decomposes the water, setting the hydrogen free, and the hydrogen seizes on the bromine of the acted on silver bromide, leaving in its place the reduced silver in the shape of the image. If, therefore, you want to be exact in your statement you will say that it is the hydrogen that is the developer.

L. S. FARMER.—It is quite possible to either reduce or intensify a bromide print, but it is, as a rule, better to throw away one that needs either, and make another.

LUCY MARTIN.—There is no "best developer," and as you have no particular favorite, you cannot do better than use that recommended by the maker of the plates you use.

P. H. NORTON.—The engraver prefers prints on glossy paper, and of as nearly a black tone as possible; but very good engravings can be made from prints on

velox or vinco papers. The greenish blacks are probably the result of an excess of bromide in the developer.

S. BERTRAM.—The flatness is a result of too much top and front light. Try a head shade, a hoop covered with cloth or paper, and fastened to the end of, say, a broom handle. This manipulated by a friend will get you over your difficulty.

SARAH CURTIS.—We do not give the addresses of our correspondents or contributors, but a letter sent under cover to us will be forwarded. The picture you mention has not been published, but we have no doubt that the author will sell a copy.

R. PRESTON.—We are aware that if we could always have the print and its criticism in the same number it would be better, and we try to do so as far as possible but there are sometimes difficulties in the way that prevent it. Thanks for your good opinion of the way in which the work is done.

W. B. WOODWARD.—“The Right Road to Photography” is the best hand book for a beginner that we know, as from it you may easily learn all that you need to know to be a good photographer.

L. S. WRIGHT.—The spot of light, the flare in the center of the negatives, is caused by the position of the stop. Move it a little out or in, and the flare will not appear. We are glad that you have succeeded so well, and have no doubt that the simple lens will enable you to make pictures as fine as if you had paid fifty dollars for one. For most subjects $f/16$ will be small enough, and you need not make one smaller than $f/22$.

IGNORAMUS.—No. 8 is $f/11$ of the U. S., but the numbers are being disregarded, and the f values given instead. The f value is the relation that the stop bears to the focal length of the lens, and should always be given instead of any number. Thus a stop an inch in diameter is $f/8$ of a lens of 8 inches, but in a lens of 16 inches it is $f/16$, or 1-16th of its length.

TILLY MELDRUM.—The formula is all right, but you have not washed sufficiently between the various operations. The hypo must be thoroughly removed from the negative before it is put into the mercury, and, after whitening, the plate must be well washed before darkening. Your stains come from insufficient washing either at one or both of those times.

BEGINNER.—You had better get one with more experience to examine the lens, and if he finds the faults mentioned you should return it. A collinear, even with full aperture, should give a fairly sharp image all over the plate. We cannot suggest any better lens. The address is 467 West Fourteenth street, New York.

R. R. W.—See leading article in this number. The daguerreotype can be cleaned, but should be entrusted only to some one who has had practical experience with the process. As they are now few, and getting fewer every day, if you care to send it us we shall be glad to do it for you.

H. S. JONES.—No. 4 of the series you name is of too short focus to give an apparently correct perspective on a 7×5 plate; nothing shorter than No. 5 will do. If you confine the combination to 4×5 and employ only a single lens on the larger size it will be all right. If the lens you have has the fault you mention it should be exchanged; it certainly is not incident to that class of lenses. For purely pictorial purposes a good rectilinear is in every way satisfactory, and for your purpose it should not be shorter than 10 inches. Arrangements for Point o' Woods are not yet complete; notice will be given in the journal.

G. B. FLEMING.—See answer to Jones. Nothing will make “tripod work unadvisable.” The times and conditions are few and far between when a picture can be made by a snap. See article on exposure on another page.

PHOTO-PAPER

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[This department is for the benefit of SUBSCRIBERS who have photographic material, apparatus or books which they wish to exchange, and such wants will be inserted free of charge one time. For each additional insertion we will charge one dollar per month. Dealers advertising in these columns will be charged double our ordinary advertising rates.]

For Sale.—4 x 5 Pony Premo Sr., R. R. lens Victor shutter, 3 plate holders and sole leather case; has had excellent care and is good as new; outfit cost \$30.00; will sell for \$17.00. Address, O. Manwarring, Room 11, Union Depot, Peoria, Ill.

Wanted.—A good 8 x 10 lens, suitable for landscape work and copying. Must cover well with fairly large stop. Price must be reasonable. Address, J. W. Traver, 12 Lexington Avenue, Montclair, N. J.

For Sale.—A professional gallery outfit, in fine condition, consisting of Bonanza camera stand, Anthony 8 x 10 portrait box, double swing, etc., a very good Darlot 4 x 4 lens with portrait shutter, vignetter and Anthony curtain slide holder. Almost a gift for \$50.00. Also have a \$25.00 Columbia graphophone with 32 inch horn and stand and an extra good selection of 4 dozen records. Outfit very little used; \$30.00. A brand new 5 x 7 Premo Sr., 1900 model, for \$30.00. Rev. E. F. Wm. Stelthorn, Marion, O.

Wanted.—Goerz or Zeiss binocular. Give exact description and price. Address, W., Box 66, Press Club, New York.

No. 4 regular Eastman Kodak, price \$50.00, used less than half a dozen times, in perfect condition, for sale for small fraction of its cost. Present owner has no use for it. Address, James McCormick, Jr., Box 548, Harrisburg, Pa.

For Sale.—One 5 x 7 Telephoto POCO A Camera with reversible back and all adjustments. Bausch & Lomb R. R. Lens and Iris Diaphragm Shutter. Front and back lenses are corrected for use as single landscape lenses and are 12¾ and 17½ inches in focal length respectively. Have used both these lenses in camera with best results. An extra disc, properly graduated, regulates size of opening for each lens, also an adapter to screw in front of shutter which holds Ray Filter when single lens is used at back. One B. & L. Ray Filter

with bottle of Bichromate and pipette and one Ideal Ray Filter. Outfit as good as new. List price when bought over \$60. Will sell for \$35 cash. Reason for selling, have large camera. Will also sell a single 13 inch lens, revolving diaphragm, for \$4. H. Macbeth, Williamantic, Conn.

Wanted.—AMERICAN AMATEUR PHOTOGRAPHER, September, 1891, or entire volume for the year. *American Annual of Photography* for 1889. *Photographic Herald*, May and September, 1889. *Photo-Beacon*, September, 1890. *Anthony's Bulletin*, March and August, 1894, and July, 1895. *Photographic Times*, August 13, 1886, and November 30, 1888. *Professional Photographer*, May, June and December, 1897; also January, March and April, 1898. Address, George R. Seiffert, Lock Box 41, Philadelphia, Penn.

For Sale.—Pony Premo Sr., 4 x 5 R. R. Lens. If you want a good camera at a low price write to W. H. S., 803 W. Howard street, Winona, Minn.

Wanted.—A 10 x 12 inch focus convertible anastigmatic lens. Also an 8 x 10 inch compact view camera. Address, with lowest cash price and full description, J. N. Morrison, Plainview, Texas.

For Sale.—Nearly new, extra rapid Euryscope Lens (Clement & Gilmet) working F.6; Jena glass, iris diaphragm, covering 12 x 15 plate full opening; equivalent focus 20½ inches. Price \$90, will sell for \$55. Address "W" box 66, No. 116 Nassau Street, New York.

For Sale.—5 x 7 King Poco, practically new, \$35; 5 x 7 Rochester Symmetrical Lens with Unicum Shutter, \$14. N. E. Arnold, Grenoble, Pa.

Wanted.—Camera Box, 6½ x 8½; give description and lowest cash price. Address, R. Payne, Lock Box No. 238, Marietta, Ohio.

To Exchange.—Woodbury's "Photographic Amusements," "Photographic New Year Book, 1888," "British Journal Almanac, 1887," "Mosaics, 1883," "Mosaics, (cloth) 1893," and "Amateur Photographers' Hand Book." Want photographic literature, annuals, etc. For sale, 5 x 7 Rochester Symmetrical Lens with Unicum Shutter, new, for \$12; lists \$24. N. E. Arnold, Grenoble, Pa.

"FEBRUARY SHADOWS."

By W. H. Cheney

THE AMERICAN AMATEUR PHOTOGRAPHER.

VOL. XIII.

MARCH, 1901.

NO. 3.

Soot and White-Wash.

BY FLORA L'ESTRANGE.



By W. C. Allison.

I SUPPOSE it will be admitted that the predominant fault of a large proportion of the photographs of the present time is their want of the necessary degree of gradation; their including nothing between the two ends of the scale, the white and black; and so acquiring for themselves the undesirable but characteristic title of "soot and white-wash." Readers of "Our Portfolio" will find that a considerable proportion of the prints sent for criticism are afflicted with that serious fault and know that the editors generally attribute it to under exposure; and while in most cases they may be right, there are some and I think a great many for which the method of development is more at fault than the exposure.

While it may be true, as one of the editors has said in his "Right Road to Photography," that the pyro or any of the things that in recent times has taken its place, has nothing to do with development except to liberate the nascent hydrogen, it is certainly quite as true that the proportion in which these reducers are present in the solution, has an influence on the nature of the developed image. Whatever theory may think, practice says, that given a certain class of subjects and a certain rate of exposure, a certain method of development will result in a negative fairly full of gradation, while by another, the result will be the "soot and white-wash."

10076

Plate makers lead the pace with developing formulae, closely followed by the dealers in ready made material, solutions, tabules, powders, etc., and as they have all been made with a view to normal exposures, it is not matter for wonder that they do not all do equally well for all degrees of exposure. A normal exposure is one in which all but the deepest shadows have been sufficiently acted on to be sufficiently affected by the developer before the lesser lights have been over developed; and which, when development is complete, shows all but the very highest light more or less translucent. In the case of under exposures—and almost all shutter exposures are such—before those shadows are in any degree touched the whole of the lights, in consequence of the accumulating action of a developer strong in reducer, becomes altogether opaque.

From this it will be evident that what is needed for the development of under exposures, and especially with subjects with great contrasts such

as snow scenes and figures with white drapery, is a solution weak in density giving power, and that means weak in reducer; a solution that will bring out all possible detail without blocking up the lights. I do not know if any of the more recently introduced reducers is better for this purpose than another, but I have tried most of them and think I get on better with tolidol than anything except pyro, and it stains the fingers so as to put it out of court. I keep 10 per cent. solutions of tolidol (preserved by half its weight of potassium metabisulphite) sodium sulphite, and sodium carbonate; and just before use make up the working developer as follows. My plates are 5 x 7, and it

No. 1168.

By Carl C. Distler

"ON EUCLID AFTER 10 P. M."

1168

takes four ounces to cover them properly :

Tolidol 1 grain.
Sodium carbonate..... 60 grain.
Sodium sulphite..... 30 grain.
Waterto 4 ounces.

or, tolidol solution 10 minims, sodium carbonate solution 600 minims, sodium sulphite solution 300 minims, and water two ounces and fifty minims.

Of course, this works slow; but half a dozen plates in as many different trays may be developed at one time; and for a considerable time there will be little more than the ghost of an image. When it appears that all that can be got has come, another three grains of tolidol (30 minims of the solution) may be added, the tray constantly rocked, and in a few minutes the image will, in most cases gain sufficient density.

No. 1170.

By F. S. Keiler.

"DEFIANCE."

I do not say that a negative so developed from a much under exposed plate will be as good as from a proper exposure, but it will be very much better than if developed in the ordinary way, and even proper exposures, on subjects with great contrasts, such as snow scenes and figures with white dresses, are developed by this very much better than by any other method.

We regret that through change in the management of the magazine, the pictures "Resting" and "An Interesting Story" in our February number appeared under incorrect titles, and without their numbers or the names of their authors. The first should have been "Mid-day Shade," No. 1029, by Helen L. Griswold; the second, "On the Piazza," No. 1052, by H. W. Schonewolf.

Pigment Printing.—III.

BY H. BURN-MURDOCH.

AS carbon or pigment tissue is thicker than ordinary printing paper and inclined to buckle, the springs of the printing frame should be strong, or perhaps better still, with screws instead of springs; and as no visible change is made by the light, some kind of actinometer by which the progress of printing may be ascertained must be employed.

The simplest, although not the most economical, is to select a negative of as nearly the same density as that to be printed, and in another frame, side by side with the carbon tissue, expose under it a piece of ordinary printing out paper of the solio or albuma variety. When the latter is fully printed, not so over printed as where it is to be toned and fixed, but just as it would be desired to appear after those operations, the exposure of the pigment tissue will be just about right.

A better way is to mark once for all, the actinic density—the actinometric number of each negative. For this purpose nothing is better than the “Wynne’s Infallible Print Meter.” This consists of an electro-plated box, about the size of a thin snuff-box, with an opal glass bottom, a plate with two rows of holes, each letting in one-fifth more light than its predecessor, and a plate of glass with numbers corresponding to those holes and numbered from 1 to 16. There are also two other rows of holes covered in the same way, but by letters, from A to P. Those holes are smaller than those covered by numbers; so much smaller that to make P visible requires just 250 times as much light as is sufficient to make I visible. On the inside of the lid, which is hinged to the box, and has a clasp to keep it tight, there is a piece of felt and arrangement for holding strips of printing out paper and keeping it pressed closely to the numbered and lettered glass.

To find what I have called the “actinometric number” of the negative, it is only necessary to place a piece of ordinary printing out paper under it in a printing frame, and a strip of the same in the meter, and expose them to light side by side. While opening the frame from time to time to watch the printing, it is well to turn the meter face down so that the exposure of both may be alike, and when the negative has been printed sufficiently, that is, to the extent already mentioned, the meter should be examined and whatever number or letter is just visible is the actinometric number or letter of the negative, and should be marked on it; and on all future occasions when that negative is to be printed it is only necessary to place the meter with its strip of paper side by side with it and print till that number is visible.

"EVENTIDE."
BY
C. E. GARDNER.

No. 1169.

10

11

Tissue printed in this way, or to this extent must be developed at once, or at least on the day that it is printed, as there is a continuing action of light that would render it overprinted if kept for a longer period. This continuing action is sometimes taken advantage of in cases of under exposure. Where for any reason, when beginning the development of a lot of tissue that has been printed during the day, and it is found to be under exposed: when the half tones are washed away, and little else than the deeper shadows remain, the batch may be laid aside for a day or two, at the end of which it will be found all right.

Before proceeding to develop it will be well to know something of what the light has done to the tissue, and what development really means. The sensitized tissue consists essentially of a mixture of gelatine, the pigment and the potassium bichromate, and before exposure the gelatine is readily soluble in warmish water, and with its contained color and bichromate, could be easily washed away, leaving the paper clean. Under the action of light, however, the bichromate is decomposed, being partly converted into a chromic oxide having the property of rendering the soluble gelatine insoluble. When a piece of sensitive tissue is exposed under a negative for a sufficient length of time, every portion of the side next that negative, except the highest of high lights, which in the negative are quite opaque, is

rendered more or less insoluble. But that insolubility is only on the surface on such parts as are to be the lighter shadows: a little deeper for the deeper shadows, and so on deeper and deeper to the deepest of deep shadows, which having been transparent in the negative, are insoluble through the whole depth.

From this it will be evident that as development simply means the dissolving and washing away of the soluble gelatine with its contained pigment, it must begin at the back and not at the front of the exposed tissue, and for that purpose must be removed from its paper support and

transferred to another, one that will be permanent if the negative had been reversed either in the taking or previous to printing; or to a temporary support if the negative had not been reversed and a reversed print was objectionable. In the first case the method is known as single transfer, and where two operations are required it is said to be "double transfer."

Take single transfer first. Single transfer paper is to be got from the dealer, being merely paper which has been coated with an insoluble gelatine, but opal glass or whatever is to be the permanent support may be employed in the same way. Have ready as many sheets of glass as there are prints to be developed, the same number of sheets of transfer paper, a tray of water at about 110° F. (a thermometer and a kettle of hot water is handy), a squeegee and a three or four pound weight. Slip the transfer paper and the printed tissue under the water, pressing them down till they are limp. Lay the transfer paper on a sheet of glass, face up, and on it, face down, the tissue, beginning at one end and lowering it gradually to prevent air bubbles. Blot off superfluous water and squeegee gently so as not to displace the tissue. A good plan is to lay a piece of rubber cloth, the cloth side down, on the tissue before squeegeeing. Lay the weight on top with a sheet of glass between if there is only one print to develop, and in fifteen minutes it will be ready for the next step, but if there be a number they may be piled one above another.

When the printed tissue has been under pressure for fifteen minutes development may be commenced. The experienced carbon printer can regulate the temperature by the feel, but the beginner should have at hand a kettle of hot water and a thermometer. Slip the tissue and support, now adhering firmly together, transfer side down, under water at about 110° F., and gently rock the tray. In a few minutes a black gelatinous matter will begin to ooze out from between the tissue and support, and the paper of the tissue may then be taken by one corner and gently removed, leaving the single transfer paper coated with a dark gelatinous mass. By gentle

No. 1006.

By F. C. Baker

"NOVEMBER EVENING."

rocking this will gradually float off and the picture take shape. To facilitate matters the paper may be taken by two corners and gently raised and floated on the water face down. After a time it may be again placed face up, and if the whites are not so pure as desired, they may be assisted by a gentle stream of water poured from any convenient vessel; the ordinary wash bottle employed by the chemist answers admirably. A good plan when thus washing is to slip a plate of glass under the print and raise it to a suitable angle, but care must be taken to make the stream as gentle as possible, as the tissue at this stage is very tender.

The rinsed print is then placed for from five to ten minutes in a five per cent. solution of alum, rinsed in several changes of water and hung up to dry.

Should the print, on development, be hard and lacking in the delicate detail, or altogether too light, the exposure has been too short; while a smudgy appearance and lack of brilliancy in the whites indicate a too long exposure.

For such prints from negatives that had been reversed, or of subjects in which reversal is not an objection, nothing more need be done; and if the various operations have been successful the operator will have a print of the highest possible quality and as permanent as the paper or other support on which it is placed. But if the negative had not been reversed, and a reversed image may be objectionable, recourse must be had to "double transfer," which I shall deal with in my next.

Our old friend, *The British Journal of Photography*, wants to know something about a Photographers' League, that according to a circular that it has come across, is doing wonderful things for American photographers; and the pity is, that while we need some of those wonderful benefits as much as any one, we never heard of it. This league must be one of those benevolent bodies that do good by stealth, that do not let their right hand know what is done by their left; and to keep their good deeds dark, hide their light under a bushel. We were under the delusion that we knew as much of photographers and their ways as most people, and we have looked all over the literature that photographers read and talked with all the photographers that we could meet, but neither did we find in the one nor hear from the other anything about this wonderful league. But we won't give it up. To be permitted to buy everything photographic without the intervention of the "middleman," to wear a badge or a pin, and feel that we belong to a league that can break up camera and dry plate trusts, even although those trusts don't know it, and all for a payment of \$1.25, is too good a thing for us to keep out of if we can help it.

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H.
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"GEE WHIZ."
BY
C. G. MOORE.

No. 1157.

"COPENHAGEN QUEEN LOUISA BRIDGE."

Some of the Things We Saw and Did at Copenhagen.

BY DR. WILLIAM GEORGE OPPENHEIM.

I MAGINE a long, two-story marble building at the junction of several busy streets, with horse cars, electrics, cabs, omnibuses, etc., rumbling by. In the light of the electric lamps, made brighter by that which streams from the windows of hundreds of shops, carriages roll over asphalt, crowds of cyclists thread their way among all kinds of vehicles. We are at the *Café National*. This part of the town and the park and avenue of Fredcricksborg and Queen Louisa's Bridge is for the people of Copenhagen what the Champs Elysées and the Bois de Boulogne are for the Parisians, the Thiergarten for the Berliners and the Prater for the Viennese.

All about here and throughout the town you hear strains of music from music halls and variety shows, restaurants, cafés, merry-go-rounds, in front of every one of these places are tables surrounded by a moving and joyous crowd, one of the most pleasure loving in Europe, bent on enjoyment.

Occasionally you see a Royal carriage with its scarlet livery making its way through the crowd and note the respectful greetings of the loyal Danes. And the people themselves are lovely, honest, simple minded, peaceful. There is no unrest, no feverish aspirations and no cravings for the unnatural.

There is much life and motion, but little passion; much philosophy and more good nature; there is genuine politeness, kindly expressed, which has its root deeply set in the moral nature of a kindly people.

Within this marble building is the *Restaurant* and *Café National*, a café at which they really sell food to eat and coffee to drink, and not liquors alone. Nearby is a circus, which we visited after our experience, yet to be related, at the café—the time is 6 P. M.

We were all frightfully hungry as we walked by, and in passing a table

at which some nice people were seated at supper, they looked as if they had the ten commandments written over their faces, I noticed an immense silver platter before them piled and heaped and filled up with good things for the inner man.

Our party looked at each other knowingly, our left eyelids gently drooped over our expressive beautiful left eyes (we had two eyes each, but we only used one at that particular time). We all caught on (I beg pardon for using bad slang), and winked with our other optic.

This platter system struck our fancies and we resolved to indulge ourselves in a new sensation, dining in the Danish fashion; hence our apparently mysterious winkings. This meal was a "circus."

We seated ourselves in a sort of box, *i. e.*, a fenced-off enclosure; the fence was made of silk and velvet, and we three of us each ordered a similar platter at one krone and fifty ore, which means about thirty-seven cents, each.

While it was being prepared we indulged in delightful thoughts of how we would annihilate the food (Miss M. is a small eater and rarely gets the worth of her money; we, on the contrary—well, what's the use of going into details on so vulgar a subject as appetite?).

The 2½-foot silver platter for each of us came, or to speak by the card, two large platters arrived; one of them was strewn with a delicious hors d'oeuvre (which you may pronounce "horsover" if you wish); this was to provoke the appetite—we scorned it and placed it on an adjoining table.

Three large china plates were placed before us. We gazed at one another with unspeakable rapture on our 7 x 9 faces and then looked with joy at the heaped up salvers.

What was on the platters?

It would be easier, I think, to detail the food which was not thereon. Still, I shall inspire my muse to make an effort to tell you what we did see awaiting our supposedly hungry mouths and empty stomachs.

About a pound of butter, done up in several cones, which met and formed one single point, as a center piece. Around this pyramid were dis-



"HARBOR OF COPENHAGEN."

played hunks and chunks and slices and cuts and slices of cold ham, cold veal, lamb, beef, tongue, caviar, smoked salmon, fried fish, eel, Weiner Schnitzels, horseradish, little red and big black radishes. These were flanked with boxes of sardines and several huge hunks of cheese, Schweizer, Gauda, Rochefort, Sage, Spice; in addition there were hot beefsteaks, anchovies, jellies, sardellen, smoked sturgeon, sausage, smoked fish and numerous other delicacies which were new to us, and pleasant to the palate and comforting to the imagination.

Well, we sailed in and on to that platter, just as Dewey did on Manila Bay, without fear and with a total disregard of the consequences. We kept on sailing and sailing and sailing, and disregarding everything except the clock in the corner, the hands of which were slowly making their way to 8 o'clock.

We were working a heap sight harder than the clock, and we kept on working, working, working—time was too precious to waste on conversation—because the second circus was to begin at 8, and we had already bought our tickets. Finally, however, we did stop from sheer exhaustion, and after we got through there was no great apparent diminution of food; there was quite sufficient on that platter to withstand at least two more onslaughts.

With unwilling steps and lingering looks at the lovely food which we could not take away in our little stomachs, we paid the bill and hastened to the circus.

All that evening, August 2, and the next day, and since, we have discussed that platter, and we have declared that we ought to return to the place when we were *really hungry*, so that we might get even with the landlord by really eating the whole platter clean—as clean as if the cat had been at work.

This morning we breakfasted—the customary Danish breakfast—at the same price, on board the steamer "Aeolus;" it was of the same character and was equally copious, if not more so. There was a white table cloth on the table, but this was only to be seen in flecks, as the whole surface was covered with fifty different varieties of food in little oval platters; the

sole objection was that there was scarcely room enough for the plates which we used to eat from. We tried to do our duty towards *that* food and I think we succeeded pretty well, thank you.

You may probably now ask why I do not write about Danish scenery, about beautiful blue skies flecked with fleecy clouds, about cerulean waves, green terraces, the odor of pines, the free swing of the wind across hill and dale, about her traveling experiences in general.

Why?

Because libraries are full of fine descriptions of scenery, strange customs, costumes, habits, manners. Because the picture postals which I sent you give you a far more understandable and comprehensible idea of my environment than quires of written descriptions.

Even when they are excellent, descriptions are fatiguing and "slow," else why did Miss Braddon, by request, "edit" Sir Walter's tales by cutting the descriptions, which in his day and by many people were considered "satisfying to the most exacting literary gourmet?"

I am logically illogical. I deprecate descriptions, and still linger at descriptions. I return to the Café National lovingly; the memory of the platter, the odor of the food, the pleasant jingle of the swiftly moving knives and forks, the sight of the pleasant faced waiters, the buzz and engaging manners of the pleasure-loving Copenhagens fill my soul, while in spirit I listen to delightful music floating through the lofty, well appointed dining rooms. I think that evening will never fade in the regions of blessed memories.

And thus endeth the first stage of our journey, and we are wafted by the steamer "Aeolus'" fleet wings at the rate of ten miles an hour to the "Venice of the North," the never-to-be-forgotten island city of Stockholm, where we arrive a few days later.

Ah, words fail to describe its beauties, the shimmer of the sun on the waters surrounding the island, the swiftly moving little boats that carry you over dancing waves to other little islands which nestle in deeply darkly blue tides, the little summer houses perched on grass grown hills, the cafés full of people, whose lives seem to be spent in eating, drinking and enjoying themselves and pleasing others.

After we have viewed the city in our carriage drawn by two car horses we concluded to accept the King's invitation to view his palace, at a crown per view. There we saw Sèvres vases, Russian silver gifts, the Gobelins presented by the Shah of Persia, and which cost 500,000 kroner, and a thousand other presents. We also sat down on the sofa on which the old duffer* lolls when he imbibes his morning coffee; we looked at gifts made to the old man by all the crowned heads of Europe, till our eyes ached. We tramped around the palace till our feet were blistered.

The King and Queen were prevented, by circumstances over which they had no control, from personally accompanying us, but they had deputed two pleasant gentlemen, who graciously received our silver pieces, to explain the precious things which beautified rooms, in themselves not nearly as tastefully or as luxuriously fitted up as those of our friends, the Vanderbilts, Astors, Goelets and Rockefellers. But then, as Oscar doesn't deal in stocks, kerosene oil, or steamboats, one cannot demand compliance with American æsthetic requirements.

After three days have winged themselves away in sightseeing we set sail on the steamer "Ceres" to Gottenborg.

The human menagerie on board this steamer was very diverting; many of the animals reminded us of Artemas Ward's description of his kangaroo, they were "amoosin little cusses."

I believe that this is not only a beautiful but also a compensatory world; that wherever willing feet carry listening ears and sympathetic eyes, they find sights and sounds which blend harmoniously in keeping with the unities, although I've found exceptions, thus: One American lady sat at the edge of the promenade deck as the steamer wound its serpentine way through lake scenery which for beauty defies description—and what think you she was doing? Drinking it in with enraptured eyes as she silently thanked the good Father for the beauty with which He had dowered the rocks and hills, the mountains and dales, the fleecy clouds, the shadowy nooks, the waving trees, the grassy knolls, the deep, clear, green waters in which mermaids might have deposited themselves? Did she revel in piney odors, in rippled waters, in dense forest, in shooting rapids, in all the strange glamour of hill and dale and magic northern light?

Nay, nay, Mommer, nay, nay.

The lady was reading her guide book.

Another person who attracted our attention was a Johnny Bull from Birmingham, florid of face and manner, sympathetic in appearance and address, with an enviable gift for accompanying himself on a piano to jolly

*(NOTE BY THE EDITOR).—Is it possible that this American female apostrophizes the King as "a duffer," "old man," and "Oscar"?

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"AN OCEAN BREEZE."
BY
ANDREW EMERINE, JR.

No. 1051

songs trolled out from strong lungs, gifted with a lusty appetite and a weakness as to "haitches," a self-made man, with a ditto family of five children plus one wife, who invited us to visit him at his home, where no doubt he would have entertained us lavishly.

No. 3 was a large American, six feet two inches in height, whose weight was about 300. One of his shoes was built at Philadelphia by the Cramps, the other—the sister shoe—on the Clyde. The third person was a sad faced gentleman, the husband of the guide book woman. It seemed to me that he had committed some dreadful enormity, or that he had a dark brown taste in his mouth—no wonder! poor fellow, with such a wife.

You must see Copenhagen; it is a city with a charm distinctively its own; it is difficult to describe, it is characteristically Danish, picturesque, refined, possessing an old-fashioned beautiful homeliness, more attractive than the splendid monotony of many modern cities. You ought to see "Tivoli" in Copenhagen, there is nothing like it, in the heavens above or the earth beneath, or the waters underneath.

It is not a Coney Island, nor is it Central Park, but rather a combination of both, leavened and made beautiful with an art and with conceptions of beauty which as yet seems to be foreign to us, as a nation. "Tivoli" seems to be a magnificent cornucopia, which offers something to every one of its thousands of visitors; there is to be found high art, juggling, classical music, peaceful idylls, brilliant festivals, roundabout swings, acrobats, animal trainers, shooting galleries, musical performances by the most renowned artists, dancing platforms, cheap eating houses, as well as magnificent restaurants fitted up like a king's palace.

The concert hall of the Tivoli is throughout the summer the center of musical life at Copenhagen, and the really valuable renderings of orchestral and vocal music which are given there, bring together under its magnificent gilded glass dome an audience of the most musical people in Europe.

In the rear of the hall and in the lovely flower bedecked veranda running around it, waiters in dress coats hurry to and fro bringing Danish delicacies to the listeners seated at circular beautifully spread tables. The sight of Tivoli at night is one to be remembered for a lifetime. Under arc lamps people spy out familiar faces, meet friends and pay visits, and enjoy themselves in a manner unknown to us.

Over the garden walks of Tivoli Park, which is as large as Central Park, rise sparkling triumphal arches of multicolored lanterns, lawns and flower beds are bordered with pearly festoons of white ground glass lamps. On all sides rise fantastic castles and pagodas of fire.

A radiant fairy palace blazing through the darkness, is the "Bazaar;" this beautiful building, decorated in Moorish style, accommodates restau-

rants, ice cream saloons and cafés, but for the time it looks like the fantastic offspring of some great magician's whim.

In every direction lights flash and blaze, and in the shrubbery gleam many colored lamps like sparkling stones in a beautiful woman's dark hair, and the torches' flames cast their scintillating, waving lights over the crowd.

On Sundays and holidays the lakes bordered with thousands of many colored lamps mirror themselves on their still surfaces and show the reflections of environing trees and sloping swards, and brilliant fireworks duplicated in their glassy depths.

Ceaselessly the crowd promenades around their margins; on the water the regular strokes of the oars are heard, boats glide about, swarming around a full rigged frigate lying moored in the middle of the lake, and in the inside of the hold of the frigate there is a variety entertainment.

The illumination and environment works its effect on the mood of the public; their spirits, too, are attuned to the occasion, laughter rings out loud and free and waves of conversation rise higher and higher like a sea stirred by a gentle wind. All this, together with the strains from the orchestras, now operatic airs, now waltz music, the heavy thuds of the mallet from the "trials of strength" machines, the laughter of children, the popping of corks, the clinking of glasses, snatches of songs, all, all combine to produce a sort of festival symphony which is known as "Tivoli humor."

"COPENHAGEN -TIVOLI AT NIGHT."

The focus of Tivoli is in front of the open air theatre; he or she must be very blasé indeed who is not affected deeply with these surroundings. After the play is over there is a stream of life everywhere; orchestras play until midnight, while crackling, hissing explosions announce the display of fireworks on the "Artists' Lawn," the atmosphere is laden with an aromatic pine odor, mingled with that of the flowers from numerous variegated beds throughout the park. It is more than beautiful, more than strange, more than picturesque, it is Tivoliésque.

We are requested by the editor of *Camera Craft* to say that the article, "Simple Pigment Printing," that appeared in our January number, and which we credited to *The British Journal*, appeared first in his magazine.

Overcoming a Developing Difficulty.

BY R. SAUNDERSON.

DURING the first three weeks of September I exposed some six dozen plates, intending to develop them at the end of my all too short holiday, but business necessity sent and kept me from home till the end of January, and it was not till the middle of February that I could give my attention to them, five months after exposure.

But this did not trouble me. I had often kept plates after exposure much longer and got from them excellent negatives, and having made the exposures according to Wynne's Exposure Meter, I commenced development pretty sure of success.

But "the best laid schemes o' mice an' men gang aft agley;" I struck a snag at the beginning. To begin with, the plates were "double coated," and to make assurance doubly sure I had backed them with an untried backing, a tough collodion that when simply colored a deep red peeled off in the developing solution. This, however, instead of the usual stain, had rubbed up in it some lamp black, which, as I might have known, stuck like paint on a door. The best I could do was to scrape a little off with a knife to clear a little hole in the center through which I hoped to see some trace of the image. But it was no go. The double coating was so nearly opaque that hardly anything could be seen, and to watch development was simply impossible.

Watkins' method of timing development occurred to me as a forlorn hope, and was adopted as one who has all his life laughed at quack medicine, takes to some well advertised nostrum when suffering from an incurable disease. The developing solution contained two grains of metol and one grain of hydroquinone per ounce, and I decided that the indicating time should be the time taken to produce a recognizable image; the number of seconds that should elapse between the pouring on of the developer and the appearance of enough to show me what the subject was. Without any particular reason, unless perhaps that it is a classical number, seven came into my mind, and at the end of eight minutes the plate was removed from the solution, rinsed and fixed; and those who have been in a like difficulty will understand how I felt when, on removal from the fixing bath, it was found to be just right.

The subjects varied from surf bathing and yacht racing to dark interiors, and the time of appearance from forty seconds to two minutes, but in every case, seven times the time of appearance added to itself was just about right. I do not say that the negatives were perfect. Far from that,

as some needed a little reduction and some a little intensification, and most of them needed local action in both directions. But I get few negatives that cannot be improved by after treatment, and I will say for this method, that by it and in a way that I could not have got by any other known to me, I have secured quite as good results as I could have produced by the ordinary method of development.

The Coming Convention of the P. A. of A.

THE first convention of the twentieth century will be held in Detroit on August 6th to 9th, inclusive; and for several reasons, should be considerably better than any of its predecessors. There are many reasons why every professional photographer who by any possibility can, should make it a point of honor to be present at the convention, but one will be sufficient. There only can he see and carefully study the best work of the best of his fellow craftsmen; and probably this time will he have the first opportunity of doing so. The executive met as usual in the beginning of the year, and for the first time mustered courage to do away with medals or awards of any kind; a step which we have urged them to take ever since the first meeting of the newer organization in Chicago.

While it is true that the offer of medals will bring out exhibits, they will not be of the right kind, the kind desirable to see and study. The best men, those who know the nature of their work, will not submit it to the judgment of such judges as chance may select; men who place "chemical effect" and technique on a level with, and even above, all that goes to make true pictorial photography; as was declared not so long ago by one of the late presidents of the association.

The withholding of awards may keep away some exhibitors who looked on them as a means of advertising, but their work, as a rule, is of a kind that may be seen anywhere and is of little educational importance, and it certainly will bring much that the fraternity will be all the better for seeing, and which so long as medals were offered they had no opportunity of becoming acquainted with.

Then, the doing away with awards will save a large number of dollars that can be very much better spent. The fact that it was "moved and seconded that this convention shall be called the Educational Convention" gives a hint as to the direction in which a large part of it might profitably go, as there is still much both in the art and technique of photography that the conventioners would be all the better for knowing.

Many of the illustrations in those journals which show the work of

professional photographers give ample evidence of the fact that there are still too many who consider the theatrical pose and the needle sharp definition the highest of pictorial effort, and they include some of the best known and most popular names in the craft. For their sake, and for the education of the conventioners generally, some of the money would be well spent in engaging some artist of unquestionable ability, who would, in a series of lectures, criticise a dozen or two of the best pictures in the exhibition, pointing out their faults and failings as well as their good qualities. Few, we believe, are so thin-skinned as to object to such criticism, the true artist is never so; but if there should be any such, it would be an easy matter to indicate such prints as were not for criticism.

Things Worth Remembering.

MR. C. T. COX, in a lecture before the Birmingham Photographic Society, quoted a number of rules formulated by his great namesake, David Cox, which, although intended more for painters than for photographers, were thought by the society worth issuing in pamphlet form to its members. They are as follows:

1. The sky at zenith is darker than at the horizon. Reason: The eye receives the light through a denser medium of air when turned towards the horizon.

2. Receding opaque surfaces darken in tone as they recede when the sun is *before* the spectator. Reason: In proportion to the increasing distance of the receding surface the shadow side of the roughnesses and inequalities are more and more presented to the eye.

3. When, however, the sun is *behind* the spectator receding opaque surfaces lighten in tone as they recede. Reason: In this case the bright side of the roughnesses and inequalities of the receding surface are more and yet more presented to the eye in proportion to the distance.

4. The above rules apply to surfaces when they receive the light, when opaque receding surfaces are in shadow they lighten in tone as they recede. Reason: Because in proportion to the distance will be the measure of intervening atmosphere.

5. Receding transparent surfaces lighten in tone as they recede from the eye. Reason: Because the more distant part of the receding transparent surface reflects the brightness of the horizon sky.

6. The above rule applies to transparent receding surfaces, whether receiving the light or in shadow, only that if in shadow, the increasing lightening of tone in proportion to the distance is yet more evident; on

account both of the increase of the atmosphere and the reflection of the sky.

7. If the liquid surface is roughened by the wind it becomes opaque, and, therefore, subject to laws which affect opaque receding planes.

8. When the surface of the shadow side of an object and the plane receiving the shadow from the object are of the same local color, the shadow thrown will be darker than the shaded side throwing it.

9. The darkest part of a shadow will be that which is nearest the object casting the shadow.

10. The edge of the shadow, even with the brightest light, will be slightly softened off. This softening off of the edge will, of course, increase in proportion to the degree in which the light is diminished.

The reader should bear in mind that the above were formulated by a painter, and a certain amount of intelligent allowance should be made for the idiosyncrasies of the photographic process.

The Photographic Society of Philadelphia.

ANNUAL EXHIBITION OF THE WORK OF THE MEMBERS.

WE have to thank the secretary of the Photographic Society of Philadelphia for copies of the catalogue of the "Members' Exhibition" and the January issue of the society's journal. Our thanks are also due to those members who have written us, some approving and some disapproving of our having printed the, to say the least, rather ungenerous criticism of the late Salon that appeared in our December number. To the latter we would say that while we do not identify ourselves with the opinions of our contributors, and generally prefer those with whom we agree, there are certain kinds of controversial questions in which, as one of our correspondents says, "it is best to hear both sides, to turn on the fullest light, believing that fads and errors will correct themselves, and that the right will stay at the top."

It would appear that, in the expectation that the anti-Salon party would be aroused to action, and in its effort to show what "pure and honest photography" really is, would make the members' exhibition bigger than ever; the number of frames that each member might send was restricted to four; but, alas! not one of them had the courage to show by their work what they meant.

But they were not missed. According to another correspondent, "The exhibition has been an unqualified success. That the members approve of artistic photography is clearly shown by the wall display, it being almost without exception on the artistic rather than on the technical lines. The in-

fluence of the Salon is very evident, the work being of a more refined character than ever before; while some, that three years ago pooh-pooed it are now doing good work in that line."

There were 145 exhibits by forty-five members, and judging from the criticism by Mr. C. Yarnall Abbott, to be found on another page, it fully bears out what our correspondents have said about it.

The working members, whether pictorial or technical, those who have the interest of the society at heart, need not fear an occasional breeze. It serves to clear the air and paves the way for smoother water. The society, as we said in our last, is on too secure a basis to be seriously disturbed by such a trifling ebullition, and includes too many men who know that in such bodies there must be room for all shades of opinion.

Photographs at the Pan-American Exposition.

AMONGST the artistic exhibits which will be seen at the Pan-American Exposition, which opens in May at Buffalo, there will be nothing in the line of landscape photography that can surpass the exhibit to be made by the Missouri Pacific Railway and the Iron Mountain Route.

As is well known, these two lines pass through a very picturesque section of the country, as well as through the most prosperous agricultural districts. There are 100 handsome photographs, magnificently framed, depicting some striking bit of rugged landscape, either mountain or stream, or both, or reflecting the contentment and prosperity of the many excellent farms along the lines. The collection embraces almost every phase of outdoor photography, from the simple study of the peaceful meadow, or wheat field, through the more varied features of rushing mountain streams in the Ozark Uplift, hunting scenes in Arkansas, the shooters' and fishers' paradise, up to animated and instantaneous photography which gives some idea of the cattle and stock farms, the mining and manufacturing industries, and the railroad service with which the country through which runs these lines is blessed.

While, of course, the main merit of a photograph lies in the excellence, both technical and artistic, or the print, much of the finished beauty depends upon the matting, or mounting and framing. And we must say that we have never had the pleasure of looking upon a better arranged collection, and one in which the framing and the very unique but tasteful and striking matting produced a more harmonious effect or better suited the character of the photographs themselves.

There will be many a picture at the Buffalo Pan-American Exposition.

but few indeed that will approach the individual and collective merits of the Missouri Pacific and Iron Mountain exhibits. These photographs are part of the postal department's exhibit, showing scenery along American postal routes.

Notes.

We are sorry, although not surprised, to learn that the Amateur Photographic Society, of Madras, came to an end with the end of the century, and with it, of course, died the journal, with which its editors struggled through eight and a half volumes. We know something about life in such climates and the heroic efforts necessary to carry on such enterprises, and congratulate all concerned on having done as they did.

"A NEW COMBINED TONING AND FIXING BATH."—Such is the title given by *The British Journal of Photography* to an article extracted from the *Camera Obscura*, from the hand of R. E. Liesegang. Here it is:

Water	1 litre.
Hyposulphite of soda.....	120 grammes.
Chl...ide of gold.....	½ gramme.

We are glad to see this, as instead of its being new, it is practically just what we have employed and recommended for years; indeed, there is not a volume of our magazine since our connection with it that does not contain it many times repeated both in articles and in answers to correspondents. There is one thing, however, which we did not know, namely, that an addition of 200 c.c. of a 50 per cent. solution citrate of potass to the above quantity of the bath will give a beautifully black tone to the silver print.

A NEW CHROMATE PRINTING PROCESS.—Dr. Anderson has patented a printing process that should be of interest to those of our readers who are of an experimental turn of mind. We clip the following description from *Photography*:

It depends on the fact that the insoluble chromium compound resulting from the action of light on chromates in presence of gelatine or other organic substances has the property of acting on various diamines and amidophenols, producing coloring matters which fix themselves to the feeble image formed by the altered chromate. Photographic paper is immersed for a minute in a solution containing six parts of soft gelatine and from sixteen to twenty parts of ammonium bichromate to one hundred parts of water. It is then dried in the dark. When the paper is dry it may be exposed under a negative for about half the time necessary in

the gum process, and the unaltered chromate is rapidly removed from the paper by washing in abundance of water. The last wash water should contain a trace of sulphuric acid (one part in a thousand or ten drops to the pint is ample). The washed print must next be developed by immersion in a solution made by dissolving one part of paraphenylene diamine and one to two parts of sodium bisulphate in six hundred parts of water. A dark brown image is obtained. Instead of paraphenylene diamine other substances may be used, such as amidol, pyrogallol, paramidophenol, aniline, dimethylaniline, dimethylparaphenylene, diamine, methylparamidophenol, triamidophenol, etc., each of them giving a different shade of color.

From the few experiments we have made it seems so promising that we shall return to the subject and give a formula that will enable our readers to try it for themselves.

RESTORING FADED NEGATIVES.—There has been consternation among some of the astronomers at finding some of the more minute star images fading from their negatives, and Sir William Crookes, after a series of experiments, has given the following as a means of restoring them. It may seem a roundabout way, but if it is successful no one will find fault with it. It is as follows:

Soak negative in water for three hours, then redevelop for ten or fifteen minutes (in dark), with equal parts of the following two solutions: A.—Pyro, 1 ounce; sodium metabisulphite, 1 ounce; water, eighty ounces. B.—Sodium carbonate (cryst.), 12 ounces; sodium sulphite, 4 ounces; water, eighty ounces. Well wash the plate and fix for half an hour in hypo, 3 ounces to the pint. Again wash well. Clear for 10 minutes in alum, 1 ounce; citric acid, 1 ounce; ferrous sulphate, 3 ounces; water, 20 ounces. Wash in running water for six hours. To tone the restored negative with gold, two stock solutions, C and D, are prepared. C.—Ammonium sulphocyanide, 100 grammes; water, 10 ounces. D.—Gold chloride, 15 grammes; water, 15 ounces. Mix 1 ounce of C, 1 ounce of D, and 8 ounces of water, and soak the plate in this for ten minutes, after which it must be washed in running water for half an hour.

DEVELOPING PARTIALLY PRINTED PRINTING OUT PAPER.—Ernest Human, in *The Amateur Photographer*, gives the following formula for the development of partially printed out silver printing paper, which we have tried on various brands and find it to answer admirably, and likely to be useful to professional photographers during the dull days.

The print is printed until the details in the high lights show fairly well, say, about the same as a platinotype. It is then immersed, direct

from the printing frame, without any washing, into the developer, and development carried on until the print is about the same depth as one printed fully out would be, only much browner in color, then washed for fifteen minutes in running water, toned, fixed, and washed in the usual way.

The developer I find to work best is composed of hydroquinone, acid citric, and soda acetate, made up in the following proportions:

Hydroquinone	18 gr.
Acid, citric.....	30 gr.
Soda acetate.....	6 drams.
Water	15 oz.

This bath will take about five minutes for development, and works better, as well as somewhat quicker, after being used for three or four prints, the free silver taken from these acting as an accelerator; and here is the reason for the non-washing prior to development, the free silver being required in the developer.

Care must be taken to keep the prints well under water during the washing after development, as there is a strong continuing action, which goes on considerably faster on any parts exposed to air. It is also advisable to sponge each print with a tuft of cotton wool, to remove any deposit there may be from the developer.

The developer will be found in time to get black, and somewhat muddy, in which case it should be filtered for further use.

After washing, tone in the following bath:

Ammonium sulphocyanide	15 gr.
Gold	1½ "
Water	15 oz.

Dissolve the sulphocyanide first in the usual way, tone to the depth required, judging by the surface. Time for warm tones, about five minutes.

Any tone may be obtained, from the warm browns so much admired, to the cold, slaty blues, according to the time in the toning bath; the colder the tone the longer the toning. Wash for about five minutes, and transfer to fixing bath;

Hypo	4 oz.
Water	20 "

Time, fifteen minutes; finally washing as usual.

PORTRAIT PHOTOGRAPHY, PAST AND PRESENT.—In speaking of portrait photography in connection with the passing from the old to the new century, *Photography* says: "In 1875 David Octavius Hill had been dead a long while; his work was already some thirty years old. Mrs. Cameron

had made a name still heard among picture making photographers. Rejlander had died in the early part of the year (to-morrow is the anniversary of his death twenty-six years ago). These are the only names in portraiture to which we need refer. It behooves us to consider what we have done since that time to set against the work of those we have named. In this particular branch of picture making little or nothing. Craig Annan has produced work that has given more than a passing pleasure; Crooke and Walter Barnett are supplying the public with portraiture which we think in course of time they will gradually learn to appreciate at its true worth. But have these or any other exponents of portraiture succeeded in reaching a higher eminence than did Hill in 1845, and, if so, are they so far ahead as the enormous advance in the tools at their disposal would seem to justify? We believe the gentlemen we have named would be the first to recognize that the progress, if any, has been very small."

STAINS IN COPPER TONING.—The same journal, in reference to staining, by Ferguson's method, of which we also have had several complaints, says: "We have had several complaints of late that bromide prints toned with copper have been stained more or less all over with a pinkish coloration, which has defied all the efforts made by the photographer to remove it. The cause, we take it, lies in the fact that the capacity of the citrate solution to hold the copper ferricyanide in solution has been fully or rather over taxed. This may have occurred either by the bath being carelessly made up, and thus being too strong in copper ferricyanide—or too weak in citrate, which comes to the same thing—or it may be due to dilution of the bath by the intentional addition of water, or by placing in it a series of wet prints. The toning solution in the pores of a print, full of water when immersed in the bath, is always diluted, and may easily be so far diluted as to precipitate some of the copper salt as a stain. In our own practice, and we have employed the Ferguson process pretty considerably, we have always found that the toning takes place too quickly for our taste, and we have been in the habit of employing as the normal toning bath one in which double the quantity of the citrate solution was present to that which Mr. Ferguson recommends. In other words, our toning bath is made up by adding seventy-five parts of the 10 per cent. copper sulphate solution to a thousand parts of the 10 per cent. potassium citrate solution, adding subsequently sixty-six parts of 10 per cent. potassium ferricyanide. This, it will be seen, is Mr. Ferguson's formula with the single exception that the citrate solution is very nearly, but not quite, doubled in quantity. The same slowing effect cannot be secured by mere dilution, since this only serves to throw the copper salt down. The staining above referred

to, moreover, is entirely prevented by using this bath, since there is always an ample excess of the citrate solution present to dissolve any copper that might otherwise be precipitated. Those who have been troubled with these stains might note this plan.

THE VAGARIES OF AMMONIUM PERSULPHATE.—Those who are troubled with irregularities or staining while reducing with this salt should try the following plan recommended by N. Schonchen in the *Chemiker Zeitung*. He attributes the irregularities to insufficient removal of the hypo., and as ammonium persulphate is an eliminator of that salt and only a reducer when in an acid state, recommends the negative to be soaked for a few minutes in 5 per cent. solution of it, made slightly alkaline by a few drops of ammonia. Then to make the solution acid by a few drops of acid sulphuric, when the desired reduction will be effected. The reduced negative should then be transferred to a 5 per cent. solution of sodium sulphite and afterwards washed as usual.

A NEW METHOD OF APPLYING PASTE TO THE BACK OF THE PRINT.—Denton Pratt, in *Apollo*, says an easy way to paste cleanly, especially where the surface of the print is glossy and would be injured by the paste getting on it, is as follows: Lay the print face down and cover it with a piece of wire gauze a little larger than itself. Hold the gauze firmly down with the left hand and apply the paste with the right, and when the gauze is lifted the print will be found evenly pasted without a trace getting on its face.

Hints on Various Subjects.

BY WALTER WOOD.

TREATMENT OF OVER EXPOSED PLATES.

WHILE correct exposure should always be the aim of the photographer, and, as a rule, "try again" should be his motto when he has made a mistake, cases occur in which a second attempt is impossible, and his only resource is to make the best of what he has got.

Last month I showed how to make a good printing negative from a plate so much under exposed as to be, without such manipulation, useless, and now direct attention to an equally successful method of treating over exposures. Although communicated to the *Bulletin de la Société Française de Photographie* by Herr Schmidt, of Munich, as something new, it is really a method of "physical development"—the old "re-development" of wet collodion times.

Physical development differs from ordinary development in that, in the latter case, the image is formed of silver obtained by reduction of the silver bromide of the film, while in the former it is the silver in the solution that is deposited on the feeble images already formed.

Where the original image is very faint and needs much building up, the developing, or strengthening, solution is apt to get much discolored, and even muddy, in which case it should be thrown away and fresh solution applied.

HINTS ON THE MAKING AND EXHIBITING OF LANTERN SLIDES.

By the time this reaches the eye of the reader many of those of them who are photographers will be turning their negatives to account in the making of lantern slides. A good slide from a good negative should be one of the most perfect and most beautiful of all photographic productions, but from several causes, all easily overcome, at least 90 per cent. of all that are made in this country, by professionals as well as amateurs, are far from what they ought to be.

The beauty of a good slide from a good negative lies in the fact that it includes every degree of gradation and relative tone that was in the subject, the scale ranging from clear glass, for the highest of high lights, to perfect opacity in the deepest of deep shadows; but as there are few of either in nature, there will be equally few in the slide. And it is just here where American slides, and the slides of some other countries as well, are grievously at fault. In some the scale has been reduced to hardly more than two steps, and in few, indeed, can four be recognized; the shadows, from deepest up almost to middle-tone, being equally represented by opaque glass, while the highest of high lights is made to do duty for every degree of gradation above that. On the screen such slides are simply white and black, bare glass representing everything on which light has fallen—skies, water, roads and roofs—as if everything had been covered with snow, while everything in shade, no matter how full of light, is represented as equally black.

The cause is insufficient exposure and unsuitable development—exposure not long enough to penetrate even the thinnest shadows, and development forced in the attempt to get what has not been impressed till even the lowest lights had become opaque.

In negative making the developing solution is generally modified to suit the exposure, in which there may be considerable latitude, but in slide making the opposite method must be employed—the developer must be a fixed quantity, and the exposure made to suit it. In other words, there is considerable latitude in the choice of a developer, but when once chosen

it must be adhered to, and experimental exposures made till *the* one is found which, when placed in it, will give in their order every degree of gradation that was in the negative. Although plates, in this country, at least, are somewhat costly, one really good slide is worth a hundred bad ones, and therefore one who knows and values a perfect slide will not grudge to follow the example of one of the best English slide makers, who, at a meeting of the London Camera Club, said he was well pleased if he got one really fine slide from a dozen plates.

Almost any of the modern developing formulæ will answer the purpose, preferably diluted with one-third of its bulk of water; but the following has always given me perfect satisfaction:

Ortol	20 grains.
Potassium metabisulphite	10 grains.
Sodium carbonate	100 grains.
Sodium sulphite	100 grains.
Potassium bromide	10 grains.
Water	10 ounces.

This may be used over and over again for at least a dozen plates, and after a little practice it may be found an advantage to carry development a little farther than what is quite necessary, and on removal from the fixing solution, which should always be of the "acid" variety, reduced to the desired extent by Farmer's or other reducer.

NERVOUS HEADACHE AND LANTERN EXHIBITIONS.

It is well known that many experience the discomfort of nervous headache during a protracted lantern exhibition. This, according to T. N. Armstrong, an experienced lanternist in Scotland, is caused, not, as is generally supposed, by the unusual muscular strain, but by the monotony incident to a long looking at simply white and black. This, he says, may be obviated in various ways. One is the introduction of an occasional colored slide, but, with a popular audience, at least, that is not advisable, as the love for color, even although not of fair quality, tends to lower their appreciation of those that are not colored. Another and better way is to use "tinters," slips of stained glass inserted between the condenser and the slide, a method that not only prevents the headache, but also, if the tints are properly selected, very much improves the effects. Pale yellowish greens for sunny landscapes, delicate blues for marine pictures, may be taken as examples, and there need be little difficulty in finding suitable colors or shades for all sorts of subjects. The simulation of a suitably colored frame is another method of adding interest to certain classes of pictures. This is easily accomplished by making a negative of the proper size from a suitable ornamental picture frame, and printing it in any

desired color on the cover glass. Cover glasses for this purpose are already on the market in England, but they are so easily made that the slide maker may, with an hour's labor, and at a cost of only the difference between the price of the plates and the cover glasses, make a dozen different patterns for himself.

Toning slides to different colors is another method of giving variety to an exhibition, and there have been several methods proposed for the purpose at some of the recent meetings of the societies. Curiously enough, however, those that I have been able to try, while giving colors perfectly satisfactory when examined by reflected light, in the lantern proved to be sufficiently opaque to be on the screen just as black as those untuned, or that by reflected light were simply black. But there are methods of toning, and after the necessary experiments I shall return to the subject.

CONTROL IN PLATINOTYPE DEVELOPMENT.

How to make pictures rather than mere photographs; how to put into the work something of their individual expression rather than be content with the mere "record of fact" is becoming more and more an important question among photographers who have got beyond the button-pressing stage; and the simplest answer is, by controlling the development of platinotype paper.

The greatest problem in pictorial photography is not what to get into a picture, but how to keep out what is not wanted, and the solution is found in the application of the brush and glycerine to platinotype. Briefly, it is only necessary to have several cups and camel hair brushes—one containing pure glycerine, another with equal parts of glycerine and the ordinary developer, and one with developer of full strength—and the *modus operandi* may be as follows:

Thoroughly wet the printed sheet of paper, lay it face up on a plate of glass, and with the brush charged with pure glycerine go over the whole surface, giving it time to soak in; then, having a good supply of blotting paper at hand, blot off such parts as are to be first and most deeply developed, and go over them, first with the brush charged, but not full or dripping, with pure developer, softening off with the mixture of developer and glycerine brush, and as soon as any particular part is as it is wished to be, instantly blotting it off and protecting it from further action by a coat of pure glycerine. In this way, by solutions of various strengths, and by alternate brushings and protectings, the photographer who knows what he wants, after a very little practice, will have no difficulty in getting it.

Nor need he be confined to one color or shade. With one or two cups, with various strengths of developer, to which have been added varied

quantities of mercuric chloride, all or parts of the image may be developed into shades of brown and sepia, and even, in the faces of portraits, as has been shown by Stieglitz, into something approaching flesh tint, and that very much easier than from the description would be considered possible.

DEVELOPING PAPERS.

With what may be called the middle and three-fourths up classes of amateur photographers developing papers of the velox and vinco variety are almost exclusively employed, but, judging from the hundreds of prints that come to me for criticism, there are few indeed who get the best that can be got out of them.

It is now pretty generally known that ortol, adurol, a mixture of metol and hydroquinone, or indeed almost any of the aromatic developers, if the solution be strong enough, and contains only sufficient bromide to keep the whites pure, will give excellent results, and yet I think I may safely say that not one in ten of all the prints I see is anything like what it should be, or what, with the particular paper and developer, it might have been.

Some are too light, others too dark; some with nothing but deepest shadows and highest lights, and some so flat that they include neither dark nor light; all showing that their makers had trusted to development rather than exposure, which, with developing paper, is surely leaning on a broken reed.

An exhaustive series of experiments have shown me that with a suitable developer, one of the aromatic variety, of about twice the strength generally employed for negatives, and a minimum quantity of bromide, the one thing needful to insure success is correct exposure; and that that ascertained and given, development is a matter of secondary importance, *it being impossible to over develop a correctly exposed print*. All that is required with a correctly exposed piece of any of those papers is to place it in a suitable developer and leave it there till every detail that was in the negative appears in its true degree of gradation, and without fear of its being overdone.

Nor need there be any difficulty in ascertaining the exact exposure for any negative. The results seem equally good, whether it be with diffused light a few feet from a north window, or about a foot from a three-quarter foot acetylene burner. The one may require four seconds and the other forty, but it is only necessary to expose a number of marked slips, some considerably below, and an equal number considerably above, what may be guessed as being about right, and to develop them as far as they will go, to know to a fraction of a second the exposure required for a perfect print.

American Lantern Slide Interchange.

LOS ANGELES CAMERA CLUB.

This club is well to the front in its proportion of slide makers, the thirty-eight of the accepted set having been contributed by twenty-one members. Most of them are content with one or two slides, which would be our ideal where there was a large membership. Each contributing but one or two, but taking care that they were as nearly perfect both in technique and pictorial quality as they could reach.

F. H. Maude is the prolific exception, having eleven slides, mostly Indian subjects, and of very good technique. He also knows how to introduce clouds with fine effect, as is seen in his excellent slide, "Street in Graibi," 31. "Hopi Squaws Baking Pottery," 35, is also a fine slide of a fine subject; but the "Broken Arch," 14, although a grand subject, is spoiled as a slide by the large expanse of bare glass.

F. Knopf's "St. James Park," 1, is a misnomer, being simply a lamp-post backed by foliage, with no suggestion of park or anything else, and with far too much bare glass.

Mr. Morphy's "Oil Valley," 2, is much too feeble—longer development was needed.

Mrs. A. M. Wiggin's "Oil Fields," 3, is interesting, as showing the large scale on which oil is produced in the West, but although the sky is yellowed, it is much too high in tone to be a good slide.

Mrs. A. H. Wiggin's "City Residence," 38, has the same fault. A sky of bare glass, and the roof as white as if covered by snow.

O. Granicher's "Burning Oil Tank," 4, is too thin—needed more development.

G. C. Pierce has six fine subjects represented by poor slides, with nothing but white and black, good examples of "commercial" slides, but the amateur should aim at something very much better.

H. H. Stevens' "View from Mt. Lowe," 9, has a fine, telling sky, and might have been made a better slide by more development of the foreground and distance. "Mt. Lowe Saddle," 8, only needs something else than bare glass in the sky to be a fine slide.

A. G. Russell's "Cow Boys," 11, is fine in every respect; but "Broncho Bill," 10, although a telling slide, is of the "soot and white-wash" character.

G. G. Johnson's "Ah Chee," 12, a Chinese child, is good, and would have been better with longer development.

W. F. Stein's "Capistrano Mission," 13, is nothing but about middle-tint and bare glass, and the same may be said of Arthur Arvizu's "San Fernando Mission," 16, both excellent subjects but poor slides.

Mrs. Hoag's "Corridor," 15, although on the glassy side, is an effective slide; and so, with the same exception, is Mrs. H. H. Douglas' "Saratoga Cañon," 27.

Miss Davis' "Road to Eagle Rock," 25, would, with sufficient exposure, have been, both artistically and technically, the finest slide in the set. It is good as it is, but the bare glass instead of lower lights very much lessens its value.

Of the remaining seven slides, 20 and 21, by E. J. Porteous; 18 and 29, by Miss Alice J. Stevens; 19, by Dr. Johnson; 26, by J. W. Calder, and 23, by C. O. Valentine, we can only say, that, while they are all good subjects, some of them very fine, they have all the same fatal fault, an absolute lack of the gradation that should be

the special characteristic of a slide, there being nothing but bare glass above the middle-tint.

Every amateur slide maker should consider it a cardinal virtue to secure in his slides every degree of gradation that there is in the negative; and he should never forget that bare glass in the slide is reproduced on the screen as the highest of high lights; that in nature they are few and far between, and that in the slide they should be as scarce.

MINNEAPOLIS CAMERA CLUB.

This club is also well to the front in its proportion of slide making members, the sixty-two slides being contributed by eighteen.

L. J. Skinner leads with nine, all considerably above the average, and some, such as "Light and Shadow," 45, and "Twilight," 100, of the very highest class; while hardly, if at all, behind is "Stranded," 39. He is equally at home in portraiture, "Priscilla," 94, being a really fine slide.

H. E. Murdock follows with nine, all with a tendency to bare glass where it should not be, although "Jackson's Lake," 66, and "Grand Cascade," 67, are exceptions, and very fine slides.

A. S. Williams has eight, not quite even in quality. "Christmas Eve," 55, two children waiting for Santa Claus, beautifully lighted from the fireplace, only needed the light of a slightly warmer tone to be a perfect slide. Very fine, too, is "On the Frontier," 93, a woman, watched by a child in the cradle while she fires a rifle through a chink in the log house. On the other hand, "The Puritan Maiden," 91, is simply white and black, bare glass being scattered all over the slide in points of light, as if dusted on.

J. F. Schlimme has six, all of considerable merit. "Over the Din of the City," 78, and "Kissed by Moonlight," 99, being the best. The yacht slides show clearly the advantage of toning down what but for that would have been offensive bare glass.

H. E. Peck's "The Lotus Lily," 51, is an exquisite example of flower photography, and "See the Bumblebee," 46, is not far behind.

C. T. Thayer's "Lotus," 40, is as fine a slide as ever has passed through our hands.

C. J. Hibbard sends seven, all first class, both slides and subjects. "Pond Lilies," 69, is perfect, and so are "Edible Mushrooms," 56.

G. W. Beach is also high up in the art of slide making. "Crossing the Narrows," 53, is a shade too "glassy," "A Safe Harbor," 49, leaves nothing to be desired.

G. M. Baltuff's "Street in Dinant," 90, is an effective slide simply by toning down the sky and too high lights, and "On the Canal," 97, is not, because of insufficient toning down. Both sky and water are, on the screen, offensively white.

C. F. Potter's "Pond Lilies," 52, are good as far as they go, but there should have been something more than the mere blooms.

John Hadden's "Sunset Clouds," 89, is a beautiful slide; "An Affair of Honor," 59, is perfect in technique, but hardly worth such good work, and "A Wet, Foggy Day," 58, should have had more development.

Mrs. S. S. Sarles' "In the Daisy Field," 93, is good, and a very attractive subject.

Oscar Tucker's "Under the Falls," 62, and "To the Falls," 75, are not interesting subjects, as selected, but the most has been made of the slides, although they are on the bare glass side.

Mrs. C. J. Hibbard's "Chief's Wife and Baby," 72, is an attractive slide, but might have been better arranged. The figures are too close to the tepee, the objects are too crowded.

H. W. Page's "On the Wharf," 91, is a good slide of a subject hardly worth such skill.

F. V. Haven's "Sunset," 88, is fine and would have been better if the two parallel horizontal lines had been avoided.

W. C. Wyckoff's two portrait slides, 86 and 87, are both fairly good, although very false in tonal values.

J. A. Horton's "Moonlight," 85, is very fine, with sufficient light, one of the best in the set.

The influence of the Interchange on the Minneapolis slide makers is being felt. This set includes a larger number of *fairly* good slides, and even of nearly perfect slides than ever before, although there are still too many that do not realize the necessity for less bare glass and fuller gradation.

Our Portfolio.

Communications for the editors, pictures for criticism (only one print at a time) and apparatus and material for examination, should be sent to Dr. John Nicol, Tioga Centre, N. Y.

1151. DR. A. M. SUTTON.—"The Pioneer's Last Resting Place." What we said of 1149 belongs equally to this; it is a fairly good photograph of a subject of little interest, one without objective point or *motif*. It is not enough that a scene looks pretty in nature; it must make some impression on the artist, and he must seek to convey that impression to those who look on his work. This makes no impression and suggests nothing, nor has it the virtue of being in any degree picturesque. The study of some work, such as "Pictorial Effect in Photography," by Robinson, would be helpful to you.

1152. JOHN KIRK.—"The Three Sisters," islands on the Niagara, is an excellent example of "record of fact," an excellent technical photograph without pictorial value, although it would have been better with just a shade more contrast.

1153. D. H. SWILER.—"The Fagot Gatherer," a figure crossing a plank bridge with a bundle of sticks on his back, is a bid for the new school photography, and fairly successful. *Motif* and arrangement are good, although the tree on the left vertically parallel with the margin of the picture has a weakening effect. Another weak point is the fact that the water is much lighter than the sky from which it gets its light, which is hardly the thing, and there is a great lack of the necessary contrast, everything being one uniform, monotonous, dull brown. There is, however, much about it that makes us want to reproduce it, and if you will send a print on glossy paper marked 1153, we shall do so.

1154. J. W. M.—"Along the Kicking-Horse River." We wish that, all things being the same, you had employed *f*/16 instead of *f*/32, and thereby secured almost the only things wanting in this really fine picture, atmosphere. The longer exposure this would have been equal to would, with careful development, not have been too much, and it would have lighted up the all too dark shadows. When this is said,

however, the picture as it is, is fine both as a subject and the way it has been treated; while with a suitable atmosphere and better lighted shadows, it would have been as nearly perfect as we may hope to see. We reproduced it in the February number.

1155. FRANK HICKOX.—“An Early Visitor.” An apparently lone shanty, in the distance a row of stunted brush, a large expanse of foreground, bare, except for a dog or fox, or some such animal, but rendered absolutely worthless from under exposure, everything but the white paper sky being black as blackened paper can make it.

1156. F. W. WADSWORTH.—“Palm Avenue.” What was said of the last applies equally to this, only the subject is different. The exposure has been such that everything is simply white and black, a waste of good material. The leading article in last number was written for just such as the authors of this and the print previously noticed.

1157. C. G. MOORE.—“Gee Whiz,” a youngster who has evidently stubbed his toe, dropped a basket of potatoes, and sits nursing the injured member with an expression that it is hardly possible to believe assumed. This we think the best thing that you have as yet sent; and as an example of the beauty of simplicity it is as near perfection as we may hope to reach. We reproduce it on page 107.

1158. ED PRAGNELL.—The unnamed print is an excellent sample of the advantage of the use of a lens of long focus, one of $8\frac{1}{4}$ inches on a 4 x 5 plate, and a fine subject from probably the very best point of view. But, alas, it is rendered perfectly worthless from under exposure, and probably also, under development. Everything except a small patch of water and a few specks of sky seen through this foliage is as black as blackened paper could make it. With sufficient exposure, probably three times as long, it would have been a gem.

1159. R. PLUNKET.—“Sunset” is a fine selection, but surely you cannot think it a good rendering. The sky is all that could be desired, and the little glint of light on the water is effective, but with such a sky there could not have been the blackness of darkness as you have produced on everything else. You have chosen a difficult subject, and with sufficient exposure might have made a great success, but as it is, it hardly gets beyond failure. Try printing in a warm reddish brown shade, protecting the landscape part as soon as it is sufficiently printed. That may improve this, but you may rest assured that nothing short of sufficient exposure will give values as they should be. See “Answers.”

1160. H. LINGE.—Head, shoulders and front legs of a dog tightly chained, is, as photographed here, not an interesting subject. The lens has been too near the dog to give anything like a natural perspective, and the exposure has been so short as to make the darker hair quite black. You should have gone to a distance that would have included the whole animal, and made it an oblong instead of upright. The legs of the dog seem to show that the lens is of much too short focus for the size of photograph.

1161. F. E. BRONSON.—“Margaret,” a little girl reclining, her head resting on her hand, on what seems to be a “table chair,” is, in arrangement, pose, and lighting, including expression, very good; but the effect is considerably marred by the all too much vacant space above her head. An inch and a half trimmed from the top is an improvement, but makes a square, which is rarely pleasant. If the lens had been

raised so as to place the figure an inch higher, it would have been very much better. In again doing something of this kind you should make an effort to secure an apparent distance between the figure and the wall behind.

1162. E. M. MILLER.—“Avenue of Palms,” Eastlake Park, Los Angeles. This is a little out of your ordinary style, but a fine subject with a fine cloudy sky. Its only fault is its all too dark shadows, a little transparency in which would have been a very decided improvement. We shall have pleasure in reproducing it, as well as most of the others, as opportunity occurs.

1163. W. J. HELWIG.—“Dry Creek,” as photographed, is an uninteresting subject, suggesting nothing and making no impression. Then, it so badly focussed that we cannot tell what is represented, the only part nearly sharp being the little corner where the figure is placed, and the placing of which would have spoiled it if it had been otherwise good. If we were meant to see the little figure, why place it so far out of the view, and, if not, why place it anywhere? The most prominent feature seems to be a log, but it is so blurred that its identity can only be guessed at.

1164. G. B. BOWLES.—“Quietude” is a good subject, well selected and fairly well photographed, but with several serious faults. The sky has been toned to about the right shade, but the exposure has been so short that before the detail in the shadows has been developed, the water is simply white paper. In other words, the sky from which the water gets its light is much darker than the water. Then, the trees, both right and left, are reflected on the water quite as strongly as they are seen in the air, and such reflections are an abomination in pictorial work. If you had given a long enough exposure and thrown a stone into the water just before it was made, you might have had a fairly good picture.

1165. ARTHUR S. HAIG.—“Preparing for the Ball” is a decided improvement on anything you have as yet sent. Here we have action, excellent arrangement, and good lighting, the only fault being just a shade too little of it. That is, that the exposure has been a little too short, and in pushing development, to get the necessary detail in the shadows, you have made the sky and the earth on which the figures sit and stand far too white. A longer exposure would have made this all right, or perhaps development with a solution weaker in the reducer would have had the same effect. Study to get as near to correct exposure as possible, as that is the only way to secure true values. We reproduce it on page 104.

1166. WALTER E. PEEK.—“A Rhode Island Lane.” In this the art is much better than the photography. The rather objectionable narrow horizontal lines of the water and the landscape beyond are finely corrected by the arrangement of the foreground with its contrasting lines of fence, and the rather pronounced tree is well balanced by the darker mass on the left. But water and sky are simply as if cut out of white paper and pasted on, and white skies and white water are no longer to be tolerated. Judging from the general flatness all over the print, we think the light has been too directly behind the camera, giving all lights without shadows; and a general tameness that is far from satisfactory. In short, it is a good subject badly photographed. You should strive to get limpid water, a sky something approaching a natural tone, and a due proportion of shades as well as light.

1167. W. E. CHRISTIAN.—“Hommock, Florida.” This is simply an uninteresting mass of apparently tropical foliage with what little sky there is visible merely white, giving a spotty appearance all over. In nature it was doubtless a beautiful object, but

as photographed it is of no particular interest. Such masses of foliage need much longer exposure if they are to be rendered other than the white and black that is the characteristic of this.

1168. CARL C. DISTLER.—“On Euclid after Ten P. M.” Those who take and value pictures for what they are and what they represent, will not ask how this was produced, but be content to take at its own estimate, a beautiful rendering of a beautiful street or avenue in low-down moonlight. We like the little picture very much, especially the fine effect of atmosphere, so difficult to secure, but so effective when got, and we reproduce it on page 100.

1168. H. BURTON.—The snow scene is not unlike one at this moment seen from the window of our study, but we should expect to make something very different from yours if we were to photograph it. Like your print, we have a fence on the right and trees on the left, but while on our fence and trees there is plenty of both light and shade without a trace of black, yours are simply blackened paper. Snow scenes are confessedly difficult, but they *can* be photographed, only there must be sufficient exposure to get something other than blackness instead of trees. You might improve this much by a yellowish wash on the back of the negative where trees and fence are, and trimming two inches from the much too excessive and uninteresting foreground.

1169. C. R. G.—“Eventide.” This has so many good qualities that we hardly like to suggest a fault. The composition is almost faultless, and the “Shades of Evening” are admirably suggested. The little patch of white, the sail of the just come in boat, nicely relieves the otherwise all too dark mass of foliage on the right, and the suggestion of atmosphere in the distance has a charming effect. The horizontal land in the distance, and the suggestion of clouds, also horizontal, give an idea of repose, and work together to produce the desired impression and feeling of restfulness. The main fault is in the water. It wants limpidity, or translucence. It is as if made by rubbing with a grayish chalk, and we only know that water was intended by the nature of its surroundings. But for that serious fault, it would be a charming picture, and as it is, we reproduce it on page 103.

1170. F. S. KEILER.—“Defiance” is an improvement on 1126, although all that was said of it applies equally, but in a slightly less degree, to this. With the kind of lighting employed there should not be room for such very deep shadow on the face. The striped blanket is also a mistake. The oft repeated lines all in one direction is a distracting element, especially as they are not contrasted by any others. In such studies there should be nothing in the drapery to take attention from the face, or, as this does, divide the interest. You are on the right road, however, and with more thought will get well up the ladder. Pose and expression are both good, although the bringing of the hair over the shoulder is rather a hackneyed arrangement. You have a good model, worth all the trouble of training, and nothing really fine can be secured without it. We shall try to reproduce it, but the red color is not liked by the engraver; “4 stop” does not convey any idea of the aperture employed. It needs something before or behind it; $f/4$ would mean the largest aperture of the ordinary portrait lens, while 4 U. S., 4 of the universal system, means $f/8$, one-eighth of the focal length of the lens, and only one-fourth as rapid. In trying again, employ a reflector opposite the window. We reproduce it on page 101.

1171. DR. C. E. PARKER.—“Wachnsset” is an excellent selection of an excellent

subject, but the distant hill is dwarfed by the all too great expanse of sky. It is a subject suitable for a high horizon, and would be much improved by cutting off about two-thirds of the sky. A not less serious fault is the entire blackness of everything. Trees, the bank of the winding stream, and even the water itself when in shade, are simply blackened paper, the only trace of gray being in the distant mountain. Nor does this universal blackness in any way suggest the closing of the day. Rather is there ample evidence that the light was good, but that the exposure had been far too short.

1172. C. H. WILKINS.—“A Woodland Path in Winter” is a well selected subject, well photographed, better indeed than almost anything of the kind that has come to us this season. But it is much too far toned; that is, the toning solution has been allowed to give that disagreeable slaty bluish color and “mealy” appearance easier recognized than described. Properly toned, or better still, printed on some of the so-called gaslight papers, it would be a really fine picture, but for one fault that utterly spoils it—the figure placed in the very center. What the figure is, it is difficult to guess. It seems to be standing stock still, with its back to the view—an utterly unnecessary blotch, in the very worst place for a figure, even if a figure had been required, which it certainly was not.

We regret that by an oversight, “A Toiler,” one of the illustrations in our January number, and 1,120 of “Our Portfolio,” was credited only to F. C. Baker, instead of as the joint production of that esteemed correspondent and his friend, H. D. McBride.

Our Table.

Apparatus and material for examination and report should be sent to Dr. John Nicol, Tlaga Centre, N. Y.

THE BULLARD CAMERA CO. sends a circular telling of a lot of tempting things in the way of cameras, and promising a new catalogue early in the season. When it comes we shall have pleasure in telling our readers something about the good things in store for them, as if the new line is as perfect in every respect as is our magazine, *Bullard* of 1900, which was our constant companion all last year, and never once failed us, it will be good indeed.

“THE PHOTO-MINIATURE” for December deals in its usual thoroughness with “Albumen and Plain Paper Printing,” and especially pleases us by coming into line with those who give to Talbot the honor that justly belongs to him. In its third paragraph it says: “The first practical printing process was made known by Fox Talbot in 1839 (or earlier), some months before the world was roused by the announcement of the Daguerreotype process. This interesting fact may startle the gentle reader who has rested in the belief that Daguerre was *the* Father of Photography, but history attests the truth.”

All that we have said in previous numbers anent the thoroughness of the *Photo-Miniature* with everything with which it deals may be equally said of this, and therefore we need not repeat it. We may add, however, that the pictures, we cannot call them illustrations, are, if possible, better selected than usual, and are well worth keeping in mind as well as working up to.

Since writing the above, the *Photo-Miniature* for January has come to hand, and, if that be possible, is still better than any of its forerunners. "Gum-Bichromate Printing" is its subject, and it handles it in a way that should convert every amateur in the land into a gum-bichromate crank. There is, however, one thing in it that to us is new. In speaking of retouching the print, the author says it may be done while development is going on by applying a little of the gum-bichromate-pigment solution from which the film was made and holding it up to the light. Now, we have always understood that the bichromated colloid was insensitive while wet, and only became sensitive when dry, although we have never made an experiment to prove it. Is this another of the text-book fallacies that have for so long been taken for granted without a thought of putting it to the test? We heartily recommend every photographer who wants to put his individuality into his work to secure a copy of the *Photo-Miniature* for January, 1901.

We have to thank Mr. Arnold, of Grenoble, Pa., for a neat calendar watched over by a well-photographed cat, a specimen of the very excellent printing which he has done for us for several years.

FROM F. H. COLLINS, OF NASHUA, N. H., come samples of cloth covered frames that should be "a boon and a blessing" to those picture makers who want to frame their work artistically and economically, and just in such shades or colors as their taste directs. The November *Photo-Miniature* describes and gives instructions for the making of such frames, but thick mill-board is troublesome to cut with a jack-knife, and the amateur should be thankful to Mr. Collins, who offers to supply them made and ready, or cut ready to make, at prices that seem only a little higher than the cost of the material. For example, frames suitable for 5 x 7 prints, if taken in lots of a dozen, cost only twelve and a half cents each; and they may be had in as many colors and shades of color as there are colors and shades of color in the largest library in the land. Those who want to see what a finished cloth-covered frame is like should send 25 cents, and they will get by return one for a 5 x 7 print.

PHOTOGRAPHIC BOOKS.—Tennant & Ward, of 289 Fourth avenue, New York, send us a booklet of sixteen pages, a price list of no less than 187 books, all dealing in some way with photography, and probably the most complete list that ever was published. There is hardly a phase of photography that is not dealt with in one or more of the books in this list, and as it is to be got for the asking, and any book in it will be sent post or express free on receipt of the price, no one need to remain ignorant of anything in connection with photography that he wants to know.

THE ILLINOIS COLLEGE OF PHOTOGRAPHY.—From this popular educational institution comes an illustrated circular of thirty-two pages, in which is told all that a prospective pupil needs to know, and in which is shown how marvelously a well-conducted college can grow during the first seven years of its existence.

In spite of the many complaints of dull trade there is always room at the top; and, as the circular hints, we rarely if ever hear of a photographer who has thoroughly "learned the art," and has a "well-equipped studio," that does not meet with success.

There is no trade or profession, no means of making a good living, in which all that can be taught can be taught as cheaply and in so short a time as professional photography; and therefore a young man, if he possesses the one thing needful, the artistic temperament, and is looking out for a path in life, cannot do better than send to Effingham, Ill., for a copy of this circular.

Society News.

Secretaries of camera clubs or photographic societies or associations are respectfully requested to send to Dr. John Nicol, Tioga Centre, N. Y., reports of meetings, copies of papers that have been read before the members, or anything of general interest that they would like to appear in the journal.

THE CAMERA CLUB OF NEW YORK.

The annual dinner of the Club was given on February 2, at the New York Athletic Club, in this city, and was as successful and entertaining as usual.

The regular meeting of the Club occurred on February 12. In addition to the usual business, Mr. Charles E. Manierre, a member of the Club, gave an interesting talk on "Photographic Lenses," accompanied by illustrative diagrams. He explained the construction of the lens, the combination of the different kinds of glass used, distortion, and the flare spot and methods of correcting it.

On February 15 and 16 the yearly auction sale of miscellaneous photographic materials took place, Mr. Johnson acting as auctioneer. The number of articles listed was very large. The Club has found this method an excellent plan for the exchange of articles between members and friends. Mr. R. L. Bracklow was chairman of the auction sale committee.

On the evening of February 19, Mr. Dwight Lathrop Elmendorf, an honorary member of the club, gave his new illustrated lecture, entitled "London, the Metropolis of the World," before a crowded audience, which was greatly enjoyed, and brought out the latest ideas of Mr. Elmendorf in lecture work. His method now is to illustrate places by time exposures, shutter exposures, telephoto exposures and moving picture exposures. This combination produces a novel effect in a lecture and is quite an attraction. He operates three electric lanterns, constructed specially after his ideas, where the upper carbon is placed horizontally, which prevents any shadow of the upper carbon from appearing on the screen. The carbons are fed by a hand operated shaft exactly in proportion as they are consumed. In the third lantern the moving picture film is operated and the mechanism is of the utmost nicety and simplicity.

By this combination a scene is shown first where, for instance, a journey is to be begun, then the light is shut off and the moving picture is substituted, as, for instance, a train starting off or carriages moving in procession as one enters the Yellowstone Park. In the London lecture the masses of people moving about was well depicted. Views of the Bank holiday crowds and the return of some notable person were particularly well rendered. Mr. Elmendorf is assisted in his entertainment by Mr. Alfred Simpson, who operates the lantern. It is also of interest to note that all of Mr. Elmendorf's views are delicately and appropriately colored. His lecture is full of interesting talks, all brief and to the point, amusing and educational enough to easily sustain interest.

CHICAGO SOCIETY OF AMATEUR PHOTOGRAPHERS.

This is one of the highly privileged clubs in the country, and the members show by their zeal that they appreciate their privileges. Since our last notice they have had addresses by some well-known men on the "Present Condition and Capabilities of Artistic Photography," an interesting illustrated lecture on "Impressions of Spain Fixed by the Camera," by George Carter Howland, and, while we write, there is on the walls an attractive loan exhibition of pictures by Clarence White, Herbert

Arthur Hess, and Edwin Sterling. They have also appointed a director for the American Lantern Slide Interchange, with a committee of four to assist him in getting the required set of slides, so that we may look for something good from them in the future.

• OREGON CAMERA CLUB.

We have to thank the Oregon Camera Club for a copy of the catalogue of their sixth annual exhibition, which seems to have been a decided success. There were 181 exhibits, by thirty-seven members, five of whom were ladies, and, judging from the few that are reproduced, the pictures were of a fairly good class.

Beginning in 1895 with eighteen members, there are now 181 on the roll, with excellent club premises, including a well-equipped studio, demonstration and developing rooms, furnished with all the necessary apparatus and material, including a lantern for the exhibition of their own and other slides, they being members of the Interchange.

The Oregon Club is deservedly in an excellent position, and those who remain outside do so to their own detriment.

THE LANCASTER, PA., CAMERA CLUB.

This club, following the example of many of the English clubs, and setting a good example to all the clubs of this country, has resolved to give to those who shall be living 100 years hence what we would gladly give almost anything for of 100 years ago, viz., a photographic record of men and things of the present time. Speaking of the new departure, the *Lancaster Daily Intelligencer* says: "In order that the meaning and value of this effort may be appreciated, let the reader consider, for a moment, what a vivid impression we might gain of life in Lancaster 100 years ago if we could only find, carefully preserved, a series of photographs of the streets of this town in the year 1800, with our great grandfathers and grandmothers moving about in them, in the queer costume of those days. They could not have taken such pictures for us, but we of to-day can do it for those who are to follow us.

"Only the bare outline of the project was laid before the club last night, the details being left to a committee composed of Mr. George Steinman, Redmond Conyngham, Esq., and Mr. W. S. Gleim, the president, to perfect, and there is little doubt as to their ability to lay out a campaign for the members which will prove interesting, instructive and invaluable."

THE BROOKLYN ACADEMY OF PHOTOGRAPHY is ever wideawake and progressive, and under the efficient leadership of its president, William Arnold, is demonstrating its claim to recognition as the leading amateur photographic society of the city, if not of the country. Such names as Fullerton, Merritt, La Manna, Levison, Winttingham, Lewis, Mills, are sufficient indications of the quality of talent in this splendid club. The Print and Lantern Slide Committees are thoroughly in earnest, and the large number of accepted prints and slides so far this season testify as well to the interest and energy as to the efficiency of the successful workers of the club. The display of prints on the walls at present, thirty-nine accepted for January, and forty-eight on probation for February, would be creditable in the best photographic exhibition anywhere, and many would be difficult to equal, certainly to excel.

But, besides this work, the Club Entertainment Committee gave the members a pleasant "smoker" in January, when recitations, legerdemain, and graphophone afforded enjoyment, while the members and invited guests discussed the usual gastronomic accompaniments. Other "smokers" are in contemplation or provided for.

The Lantern Slide Committee, under its energetic chairman, Dr. S. H. Price, secured in January Herbert L. Bridgman, the celebrated Arctic explorer, who gave a most delightful and instructive illustrated lecture on "Seeking Peary and the Pole." As the slides were made from negatives mostly taken by Peary himself, an unusual interest was given to the illustrations, which were unique and entertaining. On February 25, Mr. Alexander T. Van Lear, the well-known artist and art lecturer, gave an illustrated talk, entitled "The School of American Artists," and later a private talk on "Composition of Pictures from the Artist's Standpoint."

On March 18 Mr. Samuel Baron gave an illustrated talk on "Paris and Its Exposition." Mr. Baron spent several months in Paris during the Exposition, and greatly entertained his fellow-members and guests by this pictorial description of his visit and his work.

On April 18, Dr. Price will "Spin Yarns" from a collection of slides given by members for the purpose. Later, before the annual exhibition, a public exhibition, with descriptive talks on slides accepted by the club at the monthly contests, will fittingly close the season.

Letters to the Editors.

Editor of THE AMERICAN AMATEUR PHOTOGRAPHER, New York City.

DEAR SIR: In the January number of your magazine, just received, I note a reply by Mr. Alfred Stieglitz to my criticism of the Philadelphia Salon, which was published in the December number of your magazine. I very much dislike to be placed in a position of controversy with so able and esteemed a gentleman as Mr. Stieglitz, but as a question of veracity is involved, I trust you will allow me the privilege of briefly replying to his letter.

In regard to Mr. Stieglitz's picture of "On the Dunes," I beg leave to say that I have now in my possession a reproduction of one of a series of Dutch paintings, which was purchased by me in Holland about eight years ago, the time at which Mr. Stieglitz states his pictures were made. The series to which his picture belongs contains a painting of which Mr. Stieglitz's photograph is almost an exact reproduction, and an examination of the picture I have will very clearly indicate the artistic idea which pervades the whole series, and which, I think, will fully justify me in the statements which I have made. The picture in question was at that time on exhibition in all the shop windows in Holland. At this late date, I cannot say whether it is still for sale or not. I very much admire Mr. Stieglitz's rendition of the subject, and I fail to see why he should take such exception to my criticism, for when it comes to a matter of fact, there are very few artistic photographs produced which have not received their inspiration from some work of art already in existence.

Regarding the second portion of his letter, it is very true that medical photography and scientific photography have no especial place in the Academy of Fine Arts. I do not know that I ever claimed they should have. I did ask, however, for a more liberal and less biased Jury of Selection, and any disinterested critic who stepped from the exhibition of the Salon into the adjacent galleries of the Academy of Fine Arts, would be soon convinced that there was very little true art shown in the Salon, but a great deal of affectation and imitation. The galleries of the Philadelphia Academy of Fine Arts show paintings by all the great masters and examples of all the different schools. The exhibits of the Salon seemed to consist mainly of the productions of those who

believed in one "cult" of photography, while the work of all others who did not think as they did, was rigidly barred.

As regards my opinion of Mr. Eugene's pictures, it was formed solely from those he exhibited at the Salon. If he is capable of better work, and I have since seen a number of his photographs which led me to believe that he is, I still think that any man who could make such artistic photographs, and then exhibit such bad ones, can hardly be considered a fit judge of the works of others. Either this, or else in selecting his subjects, he has deliberately catered to the "new school" fad, without regard for artistic excellence—which is still worse. I regret that Mr. Stieglitz has seen fit to drag my own standing and Mr. Eugene's in comparison. From the trend of his letter one would imagine that I was an active practitioner of medicine, and had had but little experience in photography. He knows very well that I have not practised medicine for a number of years, and that my attention has been largely devoted to scientific and artistic photography. I have now in my possession a beautiful silver medal offered by your esteemed journal as the highest prize in a competition for artistic lantern slides, which medal was awarded me by a jury, of which Mr. Stieglitz was a member. He has probably forgotten this fact, as well as that I was, while he was one of the editors of your journal, a frequent and welcome contributor to its pages.

There are quite a number of men in the medical profession who have given valuable aid to artistic, as well as scientific photography. If, however, scientific men of any profession are to be debarred the privilege of criticism, no matter how well up they may be in photography, and only those allowed to speak who are professional painters like Mr. Eugene, pray where does Mr. Stieglitz derive his right of criticism? He is not a professional painter. I do not understand that he considers himself a professional photographer, and I believe he holds his position solely by right of the excellence of his work as an amateur photographer, and I am bold enough and conceited enough to base my right of criticism on exactly the same grounds.

My criticisms on the late Philadelphia Salon were made for the simple purpose of bringing before the beginners, for whom your magazine is so largely devoted, and the photographic public at large, the ridiculous errors of the extreme advocates of the present schools. A perusal of the columns of some of the recent photographic journals, especially a review of the Salon by Mr. Osborne I. Yellott, published in a recent number of the *Photo Era*, would seem to show that there are others who have the same opinion as myself. The Philadelphia Salon has received some very severe criticisms, some of which were probably undeserved, but I believe fully that the effect of the same has been excellent, and I do not imagine that any one will be bold enough to say that we shall ever again have another photographic exhibition as illiberal, as limited, and as unsatisfactory as the one in question. I am

Very truly yours,

CHARLES L. MITCHELL, M. D.

PHILADELPHIA, Pa., February 15, 1901.

[As is our wont, when time will permit, we have shown the above to Mr. Stieglitz, who replies as follows.—Eds.]

NEW YORK, February 19, 1901.

To the Editor of the AMERICAN AMATEUR PHOTOGRAPHER:

Dear Sir: Thanks for the courtesy in forwarding me Dr. Mitchell's reply to my letter published in the January number of your valued magazine.

It is not my intention or desire to enter into any discussion with Dr. Mitchell upon

photographic or other matters. I simply wish to state that I adhere to every statement made in my letter published last month. Adhere to it in every detail.

Yours very truly,

ALFRED STIEGLITZ.

DEAR SIRs: Noticing a statement by the Straight (?) Dry Plate Co., of this city, to the effect that I am no longer connected with that company, I have to say that I still own one-fourth of the capital stock of the Columbian Dry Plate Co., whose entire assets have been sold by a *majority* vote of the stockholders, *to themselves as individuals*, but without my knowledge or consent. The inference is plain. I shall frame the certificates as souvenirs.

GEO. H. MONROE.

Jamestown, N. Y., March 15, 1901.

Recent Patents and Trade Marks.

The following digests were furnished by Messrs. Davis & Davis, patent attorneys, of Washington, D. C., and at St. Paul Building, Broadway and Park Row, New York.

FRANK A. BROWNELL, Rochester, N. Y., assignor to the Eastman Kodak Company, same place.

Clip for Holding Rolls or Spools. No. 662,762.

The clip is constructed of a single piece of sheet metal, provided with curved fingers and a portion extending tangentially of the fingers and a flange extending substantially parallel with the tangential portion and adapted to clamp the clip in place.

P. E. STEVENS, St. Paul, Minn.

Guide for Picture Trimming. No. 662,982.

Consists of a table upon which the print is to be placed, a hinged sheet of transparent material adapted to be placed over the picture, said sheet having marked thereon guide markings by which to adjust the picture and shape at one edge, as a trimming cutter guide, and a cutter.

F. MCKENZIE and GEORGE WISHART, Glasgow, Scotland.

Plate Holder. No. 663,578.

The plates are each provided with a flexible envelope, the front of which is open, and is provided with a flexible cover, on the free end of which is secured a bar. The plate holder slides are provided with spring catches, which engage the bar on the envelope cover and open the envelope when the slide is withdrawn, and close it when the slide is forced into place.

R. F. RUDER, St. Louis, Mo.

Tripod. No. 663,804.

Consists of a top and means for hinging legs thereto, each leg being comprised of a plurality of short tubular sections, which slide one within the other, and are provided with adjustable means for locking said sections at any point in their telescoping movement.

M. B. FETSCHER, Denver, Colo.

Apparatus for Developing Photographic Films. No. 665,599.

A vertically adjustable open frame is provided with a pair of separated horizontal

rollers, over which the film may be passed. Below this frame is a receptacle for the developer, which receptacle contains means for depressing the film. The ends of the film are joined together to form an endless belt, and means is provided for rotating the rollers.

H. L. FRENCH, Rochester, N. Y., assignor to E. C. Warnica, same place.

Plate Holder. No. 665,960.

The rectangular frame is provided at each of its ends with a transverse plate retaining bar, which is forced toward the center of the frame by a pair of springs. One of these bars is recessed to form shoulders, which receives between them and center plates of different widths, whereby plates of different sizes may be used in the one plate holder.

A. P. PRENTICE, Rochester, N. Y., assignor to the Blair Camera Co.

Camera. No. 666,556.

With means for advancing a film is combined a device for indicating when a certain amount of film has been advanced, this indicating device being operated by a part which presses on the surface of the film, and is adapted to be actuated at certain times by the film.

F. B. DICKINSON, Chattanooga, Tenn.

Camera. No. 666,652.

The plate holder is provided with a skeleton slide, having an opening for the purpose of admitting exposure on a portion of the film, while the rest is shielded, and a stop for governing the position of the slide in the holder during the production of a stereoscopic negative.

Answers to Correspondents.

Correspondents are requested to notice that communications intended for the editors should be addressed to Dr. John Nicol, Tioga Centre, N. Y.

R. PLUNKET.—You are mistaken in supposing that developing powders and other ready-made developing material are made "expressly for snap shot cameras." They are intended for correct exposures, no matter how made, but the cases where a correct exposure can be made with a snap are few and far between. Most people when beginning photography, "spoil a lot of plates," but the difference between those that begin with a camera on the stand and those who begin with snapping, is, that while the former gradually spoil fewer and fewer, the latter continue to spoil all the time. Under suitable conditions, excellent work may be done with a camera in the hand; but those conditions can only be understood by one who has begun with a camera on the stand.

W. C. PAYNE.—(1) We do not recommend the regular employment of a 5×7 camera for 4×5 plates, and we do not recommend a "short focus" camera of any size. With similar working apertures the illumination of the larger lens is not superior to that of the smaller. (2) The average rectilinear fitted to the cameras mentioned is good enough in quality, but almost always of too short focus to give an apparently correct perspective. (3) We very decidedly prefer a long focus camera and a convertible lens. (4) Rectigraph, rectilinear, autograph, etc., are various names for the same class of lenses, each maker giving a name for his own productions. (5) We should select a camera according to our taste and means, but an essential would be a long focus, and get a lens to suit. For all pictorial purposes

the main feature of a lens is its focal length, which, as we have said a hundred times, must not be less than once and a half the length of the longest way of the plate. We do not recommend any particular lens; that is, the lens of any particular maker, but you can gather from what we have said our idea as to lenses in general.

L. VROOMAN.—Yes, we have occasionally found the whites slightly degraded or stained when toning bromide prints with Ferguson's copper method. The remedy is an increase of the citrate solution.

ELIZA TURNBULL.—No, you could not alter the light, but you could either have waited till it was in a better position, or left it alone; you were not bound to photograph a scene that was not lighted to please you. Better a clean plate than an unsatisfactory negative.

J. C. R.—See answer to R. Plunket. Try Tennant & Ward, 289 Fourth avenue, New York. If they have not the book in stock they will get it for you. We do not recommend the plates of any particular maker, but we may say this, that we have used samples of nearly all, and have not found a bad or doubtful plate in the lot. The first lens you name is the better, simply because it is of longer focus than the other.

W. A. BROWER.—Although the recementing of a lens is a simple matter, as you have no experience and little confidence in yourself, you had much better send it to an optician who will do it for a very little.

Go BANG.—The chemical and visual foci of your telescopic lens are not coincident, and would entail trouble in finding a correct focus for the photographic image. You will be much nearer your purpose in getting a single lens, which, of the focal length you want, about eight inches, and properly mounted, will cost about \$4.50.

S. T. HUNTER.—Expose a slide plate for a minute or so to lamplight and develop to opacity. When dry, it may be written on by, say, the point of a wire nail, and will show on the screen white on a black ground, admirably. In the long ago, when we did much in the popular lecture line, we made all sorts of illustrations in that way; a set is before us now, illustrating a lecture on "Protozoic Life," and they are as brilliant as when made.

W. H. T.—In making negatives from engravings and printed matter by the Welsbach burner, you are at considerable disadvantage unless you employ two burners. The smoothest paper has granularity, and if lighted on only one side, the off sides of the projections will be sufficiently in shade to give a grayish image where it should be white. The remedy, of course, is the employment of two burners. With proper lighting, the one essential to success is proper exposure, sufficient to impress the whites so that they will develop opaque, and not enough to gray the blacks; and this is simply a matter of experience. It is well, as a rule, not to press development to sufficient density, but just as far as possible without producing fog; then clearing with a reducing solution and getting density by intensification. In reply to your questions, we would say: (1) The size of stop will depend on the quality of the lens; but unless it is one of the modern anastigmats, *f*/22 should be about the right size. (2) A wide angle has no special advantage, indeed, we never use a wide angle when we can avoid it.

We may add that the clearing solution that we have found best is a weak solution of iodine in potassium iodide, followed by a wash with a weak solution of potassium cyanide (hypo will do as well, but needs more washing); then bleach with sulphate of copper and potassium bromide; wash well, and blacken with silver nitrate. By this means we get clear glass blacks and perfectly opaque whites.

PHOTO-PAPER

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For Sale.—One 5 x 7 Telephoto Poco A Camera with reversible back and all adjustments. Bausch & Lomb R. R. Lens and Iris Diaphragm Shutter. Front and back lenses are corrected for use as single landscape lenses and are 12¼ and 17½ inches in focal length respectively. Have used both these lenses in camera with best results. An extra disc, properly graduated, regulates size of opening for each lens, also an adapter to screw in front of shutter which holds Ray Filter when single lens is used at back. One B. & L. Ray Filter

with bottle of Bichromate and pipette and one Ideal Ray Filter. Outfit as good as new. List price when bought over \$60. Will sell for \$35 cash. Reason for selling, have large camera. Will also sell a single 13 inch lens, revolving diaphragm, for \$4. H. Macbeth, Williamantic, Conn.

Wanted.—AMERICAN AMATEUR PHOTOGRAPHER, September, 1891, or entire volume for the year. *American Annual of Photography* for 1889. *Photographic Herald*, May and September, 1889. *Photo-Beacon*, September, 1890. *Anthony's Bulletin*, March and August, 1894, and July, 1895. *Photographic Times*, August 13, 1886, and November 30, 1888. *Professional Photographer*, May, June and December, 1897; also January, March and April, 1898. Address, George R. Seiffert, Lock Box 41; Philadelphia, Penn.

For Sale.—Pony Premo Sr., 4 x 5 R. R. Lens. If you want a good camera at a low price write to W. H. S., 803 W. Howard street, Winona, Minn.

Wanted.—A 10 x 12 inch focus convertible anastigmatic lens. Also an 8 x 10 inch compact view camera. Address, with lowest cash price and full description, J. N. Morrison, Plainview, Texas.

For Sale.—Nearly new, extra rapid Euryscope Lens (Clement & Gilmet) working F-6; Jena glass, iris diaphragm, covering 12 x 15 plate full opening; equivalent focus 20¼ inches. Price \$90, will sell for \$55. Address "W" box 66, No. 116 Nassau Street, New York.

For Sale.—5 x 7 King Poco, practically new, \$15; 5 x 7 Rochester Symmetrical Lens with Unicum Shutter, \$14. N. E. Arnold, Grenoble, Pa.

For Sale.—5x7 Blair View Camera, one plate holder, tripod and carrying case, cost \$40.00; five extra plate holders, \$6.25; No. 3 Series III. Goerz lens, 8¼ inch focus, \$62.50. Will sell camera, etc., for \$25.00; lens for \$45.00; or all for \$65.00. Alfred L. Fitch, 4409 Greenwood Ave., Chicago, Ill.

For Sale.—5x7 Premo Sr. Camera with Victor rapid rectilinear lens and Victor shutter, one plate-holder and carrying case. Listed at \$42.50, all in good condition; will sell for \$18.00. Geo. T. Power, 6607 Stewart Avenue, Chicago, Ill.

"ENCHANTMENT POINT"
BY
W. E. COGSWELL.

THE
AMERICAN AMATEUR PHOTOGRAPHER.

VOL. XIII.

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NO. 4.

To Yosemite With a Camera.

BY W. E. COGSWELL.



AGASSIZ COLUMN.

IN the heart of the Sierras, about 150 miles slightly south of east from San Francisco, is situated the Yosemite Valley, the former word of which means, in the Indian tongue, "Large Grizzly Bear." It is about seven miles in length, lying nearly east and west, and varies in width from about half a mile to a mile. The floor of the valley is some 4,000 feet above the level of the sea, while its perpendicular walls and frowning cliffs of solid pearl-gray granite, reach an additional elevation of 3,000 to 6,000 feet. Over these walls leap magnificent waterfalls from 300 to 2,000 feet at a single bound. A trip to this beautiful valley, in all its splendor, is looked upon by the average amateur as the ideal photographic tour. In a great measure he is correct, for perhaps nowhere in America, within an area of the same extent, are there to be found more grand and beautiful subjects upon which to focus a camera. Yet, few of the hundreds who visit the valley yearly return with anything like satisfactory pictorial results, for it can also be said that probably no place in America can record a greater number of photographic failures, and certainly no place on the Pacific Coast.

The photographic necessities required on a journey to the valley consists in plenty of plates, mostly isochromatic, together with a camera of the long focus pattern, not less than 5 x 7 in size, a good ray filter and a variety of lenses of different focal lengths. The writer was equipped

with the above-mentioned size, and found it with a dozen plates sufficiently heavy in a climb up a long, steep, dusty, zig-zagging trail. His lenses consisted of a set of combinations, producing focal lengths of 8, 10, 14, and 18 inches, with a Bausch & Lomb ray filter, the standard solution being reduced about two-thirds. To those who are prone to use

color value plates, even without the ray screen, he desires to say that their use and comparison with ordinary plates on this journey will certainly demonstrate to the most biased mind their superiority.

Access to the valley is now comparatively easy. Since the completion of the Sierra Railway, the trip from San Francisco can be made in a two-days' journey by stage and rail, but for those who have plenty of time and who enjoy camp life, no better way of travel can be provided than by private team. Excellent opportunities are thus afforded the photographer along the entire route. At the big trees he will find studies that will engage his attention for some little time, provided he is not struck motionless with wondering admiration and surprise. Such subjects as the Dead Giant, 32 feet in diameter, through which he drives; the Siamese Twins, measuring 114 feet in circumference at their base, and other giant Sequoias, some 90 feet around, will call for his best photographic skill.

"YOSEMITE FALLS."
(From a mile distant.)

If the journey is made by the Big Oak Flat Route, not many hours after

leaving the Tuolumne Big Trees, the tourist obtains the first view of the valley. As his eye rests upon the gorgeous panorama opening up around him, he is struck with unutterable admiration akin to awe. Descending the long, steep and winding grade, and beginning the ride up the valley, he suddenly realizes that the real pleasures of the journey

are only begun, and that of the marvelous grandeur that here reigns, no picture can portray, no pen can write, no tongue can tell. On either side tower perpendicular walls and gigantic cliffs that are almost oppressive in immensity. The road winds gracefully along under the over-hanging branches of enormous oaks, and among giant firs, pines and cedars, which measure 6 to 10 feet in diameter, and 150 to 200 feet high. Rippling, sparkling streams frequently gurgle and murmur across the course, as if trying to tell of the majestic beauty that greets the eye at every turn, while the expressive silence is occasionally broken by the thundering crash of a distant waterfall.

Presently Enchantment Point is reached, presenting a view that is amazingly indescribable, and one is almost tempted to pinch himself in order to realize that it is not all a dream. On the right are seen the Three Graces and the beautiful Fall of the Bridal Veil, a spreading, spraying,

"EL CAPITAN."

ever-changing fall of lace-like water, some 30 feet wide, which shoots from a precipice 900 feet high. Directly opposite El Capitan rears his massive walls of solid granite to a perpendicular elevation of 3,300 feet, while away in the distant centre of the picture, on the south wall of the valley, stands the Sentinel, towering into the sky.

Further on the Three Brothers are seen, the highest of which is Eagle Peak, whose apex is over 3,800 feet above. From the peculiar

formation of these mountains, the Indians call them Pom-pom-pa-sa, or, the three mountains playing leap frog. The Sentinel is now a trifle in advance on the right, while Cloud's Rest and the Domes of the Valley loom up in the distant view. When the ride is terminated at the camping grounds, or at the hotel, one feels that this drive up the valley alone is worth many times the cost of the journey and the little discomforts that sometimes occur.

The length of the visit depends entirely with the tourist himself. Three days are sufficient to obtain a general idea of the valley, but if serious photography is to be attempted, a much longer time

"THE THREE BROTHERS," YOSEMITE, 3,820 FEET

is required. In fact, much time, material and after vexation can be saved by putting in a couple of days in getting a survey of the place and in selecting the particular views that one most desires to secure.

Mention has been made of the difficulties in the way of altogether successful photography in the valley, which is, perhaps, accounted for to a considerable extent by the natural situation of the valley, and the peculiar color of its walls, as described in the opening paragraph of this article. From this it is seen that the south wall is almost always cast in deep shadow, and this, with the north wall catching the direct rays of the sun, causes vigorous contrast of light and shade. The majority of the principal views are naturally quite distant ones, and this, coupled with a smokey, or hazy, atmosphere, a dense non-actinic foreground, consisting of grass, trees, etc., tend to make the matter of exposure a perplexing problem to the photographer unacquainted with the rare actinic properties of the high mountain air.

Then there is always present the difficulty in obtaining the right point of view. Very frequently photographs of the valley are severely and

"VERNAL FALL,"
YOSEMITE
350 FEET.

unjustly criticised, by those who have never visited the place, as being very good, but "would have been much better if taken from a different point of view," when in reality in many instances a very little change in the position of the camera would bring the operator face to face with a perpendicular wall of solid granite hundreds of feet high, or send him tumbling with his instrument a couple of thousand feet to the floor of the valley below.

In writing this short sketch on picture making in Yosemite, no detailed description of the wonders of the valley has been attempted, it lying far beyond the writer's power, and the illustrations accompanying the article are only presented to show what might have been done by a more dexterous man at the shutter.

Hand camera work is a most fascinating branch of photography, but the mistaken idea that it is simple—simply press the button, so to speak—has led to a great many abuses. But every hand camera, no matter how small it may be, is capable of producing a picture in the hands of the right person.—*L. A. Osborne.*

"HALF DOME," YOSEMITE, 5,000 FEET

Use and Abuse of the Hand Camera.

BY LOUIS ALLEN OSBORNE.

THERE is probably no instrument that was ever turned out of a factory that has been productive of so remarkable a variety of work as the hand camera. Long before the introduction of films and "We do the rest" cameras, there were on the market a number of so-called "Detective" cameras that seemed to inspire most of their possessors with the idea that they must themselves become partial detectives in the use of them. The fact that snapshots could be made of a person without his knowledge of it, rapidly led to the abuse of the instrument and the endeavor to make numerous photographs without the consent of the victim.

Now the film camera has gone farther than this and has led to the production of many hundreds of photographs that would be hard to recognize as reproductions of anything on the earth below or in the heavens above.

Notwithstanding all this discouraging introduction, the hand camera occupies a most important place in photographic art and is as indispensable for certain classes of work, as it's somewhat more important and older brother, the tripod instrument. To the tourist awheel the hand camera presents a means of recording the beauties of the country that the natural inclination to speed would render impossible by other means. To the traveler in foreign lands it is even of greater value, and to the newspaper illustrator and chronicler of anecdotes it forms a most useful auxiliary, although in its latter application it approaches dangerously near the abuses heretofore mentioned. I have used a hand camera as an auxiliary to the tripod camera on every photographic trip I have ever made and find that it possesses advantages outside of its convenience in handling that make it especially valuable where one proposes to lecture about his travels.

The type of camera that gives the best service is not always the most compact, and the one I have used with greatest success has been a square box of the old type detective camera that was considered perfection in 1882, and is sarcastically called the "Ark" by many of my colleagues to-day; although they speak more respectfully of the results it produces. It

is fitted with a Ross lens, a slow but uniformly moving shutter, and contains room for six double plate holders, that make it a matter of five or six pounds to carry around when loaded. The slow shutter insures ample exposure, and working the lens to its full opening sufficient exposure can be had on slow plates. There is little danger of over exposing in any event, and none of under exposing if reasonable judgment be exercised. The lens is only $5\frac{1}{2}$ inches focal length, and consequently working on a 4×5 plate, it does not give distinctness in the corners with a full opening, but my negatives are always printed on $3\frac{1}{4} \times 4\frac{1}{4}$ paper or made into lantern

"BRIDAL VEIL FALL."

slides by contact, and it is of little importance whether the corners are clear or not or whether the subject is centered properly in the plate or not, as there is margin enough all around for considerable leeway. Carried under the arm, it can be used walking along the street without the trouble of glancing into the finder even, as the field is large enough to get any moving object sighted when it arrives in its proper position.

I give this detailed description not because this is my instrument, but because I consider it as the type of instrument to be used to the very best advantage where one wants to make a specialty of hand camera

No. 1189.

By Carl C. Distler.

"CHILD WITH BOOK."

work. It is always better to carry two cameras where a photographic expedition is planned because the landscape, effect of distance, softness of foreground, etc., are matters of effects and timing and will require a machine wherein deliberation is necessary. But if toward sundown a flock of sheep be seen grazing in the field, and the "photo-bicyclist" desires to get the group just about as they appear in the long shadows of evening, there is only one thing for him to do—get it quick—for should he attempt to set up a tripod and wave a focusing cloth over his head it is not unlikely that his muttons would travel rapidly in the direction of the setting sun.

On the other hand, traveling in foreign lands, one meets peculiar specimens of humanity in the form of peasants and their methods of agriculture, etc. To set up a camera in front of them on a tripod would be to invite their attention and secure a photograph of a curious stare if not an indignant one, whereas the hand camera can be pressed into service to record just the detail that is sought, and by the time Mr. Peasant's curiosity is aroused the flash has done its work and his actions are recorded for the amusement or sympathy of a foreign audience.

"Snap-Shots."

BY WALTER SPRANGE.

FROM recent observation I have discovered that whenever I am on the point of starting for a distant tour and am making choice from four different makes of hand-cameras in my possession, I naturally grasp a box-hand-camera fitted for six double plate-holders; one that was made more than ten years ago, and, from long service, has become very shabby in appearance.

This hand-camera was adjusted to a Voigtlaender lense by the camera maker, and, taken as a whole, I can truthfully state, has never failed to give satisfactory results in

By Walter Sprange.

"IN A FOG."

portraiture, under all conditions, as well as in most all other classes of work under almost every conceivable kind of difficulty.

At one time it seemed to me there might be advantages in favor of a magazine hand-camera, and I purchased one which will hold twelve glass dry-plates without requiring plate-holders. The absence of the plate-holders saved so much space, and so reduced the weight of the whole outfit, compared with my first purchase, that I started away much pleased with the change. But I soon found the use of the magazine camera necessitates charging the mind with the absolute certainty of remembering to turn down each exposure, in order to avoid double exposure, and also to leave another plate in position.

I found that I was very apt to forget to perform this essential mechanical action, especially when my mind was pre-occupied in trying to make a successful series of views of exciting events, such as yacht or bicycle races or trotting matches. Another objection I found to the magazine camera is that one cannot view the object on the ground glass, for it has no ground glass, and therefore the small finder has to suffice for all purposes. Then, again, upon returning to the dark-room with twelve exposures, one cannot always decide which plate of the twelve contained a definite exposure, the immediate development of which alone may be de-

sired, or, perhaps, the treatment of which alone may require special care to ensure success. It often happens that one knows of at least one exposure, made during the day, that will require some special handling. When exposures are made on plates in holders, one can avoid all mystification by placing numbers on the holders, or remarks on the dark slides.

An extension bellows hand-camera in my possession I find I use almost exclusively for home work with tripod. I think for this class of work it is an improvement over any box camera, but I find that I seldom take it with me for making exposures away from home, because of the inconvenience of opening out and adjusting the front board. I find that operation occupies too much time for general "snap-shot" work, and also that it attracts too much attention when other people happen to be about. I am naturally sociable and off-hand in manner, and I much enjoy meeting and conversing with others on my rambles; but the fact remains that while endeavoring to make successful exposures, the mind should be exclusively devoted to the subject, and all irrelevant influences avoided. All three of the cameras mentioned can be used for exposing flexible film supported negatives. I refer to the flexible negatives that are cut to size and will fit into the tin holders that slide in the grooves of ordinary glass plate-holders. These flexible negatives are really extremely convenient to carry when travelling about a long way from home, especially in foreign countries, because they are so compact, weigh so little, and are free from liability to break; but my experience with them has been very annoying, for they do not always prove reliable under development. Especially is this the case if the films happen to be either over or under exposed. There seems to be an acid of some nature in the composition of the flexible support which neutralizes the action of the developing fluid under prolonged treatment. On the other hand, flexible film supported exposures when correctly timed give most excellent negatives of very superior printing quality.

By Walter Sprang.

"BOATS OFF SOUTH COAST OF IRELAND."

The fourth camera in my possession is a neat little 4 x 5 box camera, fitted for roll-films. This camera I find I do not use at all. In my opinion there is altogether too much "going it blind" to make successful all-round work with any degree of certainty with roll-films. One cannot focus objects on the ground glass, for the camera has none, and, when in the dark-room, one cannot decide which portion of the roll of film contains any definite exposure that may be wanted. Separating the exposures and developing them singly causes great inconvenience, and requires the exercise of much patience and care. In developing at one time an entire strip of several exposures taken under a variety of conditions, some of the exposures must suffer. When printing from these fragile films after they have been separated, they curl up so persistently that they become a

nuisance and annoyance, instead of the source of enjoyment that glass negatives give during that process. These small films are also very inconvenient things to file away neatly. They will not remain flat, and it requires much ingenuity every time they are examined to replace them in safe condition for permanent filing away.

For all of these reasons I am disposed to conclude that my natural habit of picking out the shabby old box hand camera fitted for glass plate-

By Walter Sprange

"NO TRIPOD ALLOWED HERE."

holders is a safe indication that the combination is the best one to adhere to for general all-round work, and that the more recent attractive devices for saving bulk and weight only serve to increase labor and produce trials during the later stages of the recreation, if, indeed, they do not imperil the success of the results, of an entire season's work, when the development has been postponed until it is too late to re-expose failures.

Many amateurs advocate the use of the tripod on every occasion when possible, and so do I when at home; but when travelling about, far away from home, making exposures out of doors the rule, I consider the tripod an unnecessary incumbrance. I think both hands should be free to carry and manipulate the hand-camera, and that, when a time-exposure is imperative, something firm upon which to rest the camera will almost always

be found near at hand. The tripod requires almost as much work to adjust properly as the search for a substitute for it would demand.

In public places the preliminary setting up of the tripod sometimes results in a prohibition to photograph there. It is similar to the opening out of the front board of an extension bellows camera. Both actions attract attention, and when they also cause any degree of obstruction to the progress of passers-by, or of the traffic, they become a nuisance to be prohibited.

In interior work I have had no trouble in finding something firm to rest my camera upon, and out of door work as a rule does not require it. Portraiture indoors, away from home, seems to be the principal occasion when a rest of some sort for the camera is essential. On such occasions one's time should not really be of so much importance that an improvised support cannot be arranged. Such work should never be undertaken hurriedly.

"A PROUD MOTHER."
(Negative on Hammer Plate)

By Vilmer

Photography for Pleasure: for Profit.

CALL it fad, sport, pastime, or what you will, nothing is there which offers so much all around, healthful enjoyment as Photography. It's the one pleasure that can be taken up any time of the year, and you don't have to look around for some one to "go 'long too."

To and from school; back and forth from your business; Saturday holidays, or on little jaunts, you are always "seeing things,"—things which are so odd and funny, pretty and artistic, or peculiar and strange. that you tell of them time and again for the amusement of your friends.

Nothing tells a story like a picture. What would a lecture by some traveler be without stereopticon pictures to almost carry you from scene to

scene, as they are thrown on the canvas? And how much better you might remember little incidents of your own trips if you only had a series of photographs to jog your memory of the things you so easily forget, but which contribute largely to make the whole trip so pleasurable.

No. 1190.

By A. G. Graff.

"THE LAKELET."

But it is not in trips alone that a camera affords such fun for the minute, as well as for years after. What can be more exhilarating, or educative, than a tramp out in the country, with a camera, taking pictures of the growing wild flowers, or looking for artistic bits of nature—vistas here, and waterfalls there, to not only admire while you are taking them, but to be stored up in a photograph for the admiration of yourself and others long after. Snowy days and rainy days offer unlimited opportunities for the most artistic pictures. Within the house you can make portraits of your friends, or arrange a few books, a pipe and tobacco pouch on a table, or place a violin and bow carelessly across some sheets of music and see what pretty still-life pictures can be secured. If you live in a city, you can't go many blocks without seeing things that would make most interesting pictures:

a characteristic group of men ; a bunch of story-swapping boot-blacks forming a picture in some doorway ; or perhaps a beggar digging into an ash barrel for a stray crust of bread. These same things have been subjects of paintings which are worth thousands of dollars, and yet ordinarily you pass them unnoticed. This shows the keen discrimination you soon acquire through owning a camera ; you find artistic values in things you used to think common-place, and the things which are artistic you appreciate all the more.

How much delight parents would find in catching perfectly natural pictures of their little tots, in all the amusing positions they get themselves into, taking mamma's and papa's darlings from month to month all through their young days—how they would prize those photographs in after years ! Whatever you are—boy, girl, man or woman—can't you at this moment recall more than one event, or scene, or face, which you would give much to have taken a picture of to help you cherish some memory ? And yet, every day, events are transpiring which will some time cause you to regret that you did not have a camera, and so possess something more than a memory to help you recall them.

But photography, besides being merely pleasure, can also become a source of much profit, directly and indirectly. Hundreds of the most successful men and women artists, architects, designers, and photographers can trace their calling back to their young days, when they were proud possessors of some sort of a camera. And thousands in different lines of business through pursuing photography as a mere hobby, have discovered ways in which it was of material aid to them in their business.

No. 1197.

"AFTERNOON TEA."

By D. Strickland.

Unlike any other pastime, in photography the taking of the picture is only the beginning—the pleasures in store are clear gain.—*Extract from Catalogue of Century Camera Company.*

Head, Heart and Hand.

BY ABRAHAM BOGARDUS.

AS the balmy spring is in sight, cameras that have been resting during the winter will be put in commission, as the yachtsmen say, and once more do duty. Which resting, by the by, is all wrong, as the winter gives many opportunities for splendid snow pictures, and cameras, whether hand or on legs, should be put to use or they lose many grand views that are good to look at when perspiration days come, *then*, looking at one good snow scene is worth half a dozen fans for cooling off. Persons using the hand camera should not be at all nervous, if the hand stutters the view is apt to be more than was intended, or is double, and the double is not desirable in photography, however much a well-matched double may be valued for multiplying our joys as we go through life.

No. 1194.

By Henry Popp.

"A MAY EVENING."

The writer remembers when the daguerreotype process was first *imported*. Then the hand camera was a veritable cigar box with spectacle lens, "all kinds and conditions of men" were trying their hand at making the new and wonderful picture. Scientific men, merchants, mechanics, and even printers, each and all made attempts, and if the operator (!) succeeded in getting an impression visible to the naked eye, it was carried around and shown as a great success in making the silver daguerreotype. All this has passed, and with greater knowledge and improved apparatus the sun picture is close to perfection. What its future may be time alone can reveal.

An old proverb writer said, "There is a time and place for everything

under the sun." It is doubtful whether that wise man was hitting at the too liberal use of the hand camera, as that reflecting instrument was not around annoying objectors or delighting the willing in his way. And here let me say the camera should be used with discretion. When it is used under improper circumstances it is rightly objected to by intelligent people. Let it be used only when proper to do so, unless the user wishes to give himself and the camera a bad reputation. It is capable of making beautiful work when taste, care and judgment are used; its products are convenient to handle, and are highly prized by recipients. It can take in an extended landscape, a whole picnic party, or content itself with the material form of the always present "fakir" as he loudly proclaims the virtues of his pop-corn and candy. It is so easily "fired" that the enthusiastic seeker after the beautiful is often out of ammunition before he has secured all he sees and wants. Handle the little instrument carefully, skillfully; show taste in your selections, do your own developing, printing, finishing, and you can defy fault-finding critics, and hear sweet girl graduates of the laughing age say, "Just too lovely for anything."

Another matter worth thinking about is the number of plates the ban-tam camera uses up. Unless care is used it will spoil more plates than one triple its size before the manager is aware of it. The plate maker, the stock dealer and the commercial traveler all dote on the hand instrument as one of their best friends. When the stock dealer sells the camera his eyes dilate at the prospect of selling dozens of plates that will be needed, as it illustrates home-made facts, the dilapidated old mill that has long since done its turn, or soars into the region of intended art. A late writer says, "The men of a former age who have come down to us as men of renown never knew the delight of conversing with distant friends through the graph." We can add, they never knew how pleased *we*, their posterity, would be if we could possess a good photograph of the massive heads that were supposed to contain all the wisdom around loose at that time. Public schools, electricity, and the photograph, though late, seem to meet the needs of *this* age, and are desirable. They have come to stay. They are useful in educating, propelling and delighting the people who live (according to the almanac) at this late date. The number of cameras sold and used is large, yet the number does not equal the claimed circulation of some newspapers, but then, some homely people think the camera comes too near the truth to suit them. I remember the woman who said her picture reminded her of her grandmother, when at the same time *she* was on the upper side of sixty-five, very probable. Well, the photograph is true when rightly made; has not been doctored or had all the truth retouched out of it. When the retoucher attempts to give the sitter "beauty for ashes" he has wronged photography, although it may suit persons of doubtful age. Cain and Abel had a wide range of material things in their day, but the hand camera was nineteen centuries off.

A practical experience of over forty years gave the writer an opportunity to hear the impossible desires and whims of a vast number of cranks. Yet with all these the great majority only expected and were fully satisfied with a correct likeness.

Pigment Printing.—IV.

BY H. BURN-MURDOCH.

THE only difference between single and double transfer is that in the latter the print, instead of being developed on a permanent support, on that on which it is intended to remain, is developed on a temporary, sometimes called flexible support, and from which it is transferred after development. Double transfer is in every sense as simple as single, and for each print only occupies a few minutes more time.

The support on which the print is to be developed may be almost anything, plain or opal glass, the oiled board used in the copying press, the "flexible support" supplied by the dealers, etc., the one essential being that it must be "waxed" before using. Waxing solutions are as varied as carbon printers are numerous, but the following, given by Elliot, is as good as any:

1.—Beeswax (yellow).....	3 grains.
Benzole	1 ounce.
2.—Turpentine	1 ounce.
Resin	12 grains.

Dissolve the wax in the benzole and the resin in the turpentine separately, and mix, filtering if necessary, or better still, making up five or six ounces and letting it settle, when it will be easy to pour out the few drops required without disturbing the sediment.

To make the temporary support ready for use all that is necessary is to pour a few drops of the waxing solution in the centre of the sheet, three or four drops for 10 x 8, and rub it briskly all over with a flannel rag or anything suitable till it sets or hardly, if at all, feels tacky. Many carbon printers then flow over with plain collodion, and in some ways it is an advantage; it adds to certainty, but tends to a slight glossiness that I do not want. When coated with collodion the support must be washed till greasiness disappears.

The prepared temporary support and the printed tissue are well wetted, brought together under water, and squeegeed as before advised, piled one above another or left for about fifteen minutes before proceeding to develop.

Development is carried on exactly as in single transfer, the print well rinsed and alumed, but instead of being hung up to dry, is transferred to its permanent support. This, as in the case of the temporary support, may be almost anything, the one thing necessary being a coating of more or less insoluble gelatine. Newcomb gives the following formulæ for it:

A.—Nelson's hard gelatine.....	1 ounce.
Water	8 ounces.
B.—Chrome alum.....	30 grains.
Water	1 ounce

Add by degrees three drams of B in two ounces of water, to the eight ounces of A, with constant stirring, and float the paper on the mixed solutions; or coat such other permanent support in any convenient way, and set or hang up to dry.

This double transfer paper or permanent support is cut to about the size of the developed and washed print and immersed in warm water (from 120° to 140°) till quite slimy to the feel. Transferred along with the developed print to a tray of cold water, drawn out together and squeezed as before and hung up to dry. When quite dry the print may separate of its own accord from the flexible support, or may be easily removed by inserting the point of a knife between the corners of the two.

On the nature of the surface of the temporary support will depend that of the finished print, glossy if it has been a plate of polished glass, medium if on paper, and rough if on the ground side of, say, an opal. Whatever the temporary support may have been, it may be used over and over again, but must be rewaxed each time.

Although, as I have already said, pigment is one of the simplest of all printing methods, and in the four articles that I have been permitted to write there is sufficient to enable any one of average ability to make excellent prints, it may not at first be plain sailing to all.

To those anxious to succeed, and who come across a snag, or find a difficulty that they cannot overcome, I would say that I shall always be glad to help them in any way that I can, and if they will send to the editor specimens of such failures he has promised to forward them to me and let my replies appear in "Answers to Correspondents."

Since writing the above I have seen a suggestion of a new method for reducing over printed carbon prints that answers the purpose admirably. It is to make a saturated solution of chlorinated lime, ordinary bleaching powder, and add an ounce of it to about a pint of water. This is added by degrees to the developing water according to the effect produced, and indeed reduces the image very quickly. The best way is to little more than well cover the print with warm water and add the dilute chlorine solution gradually, lifting the print out of the water before each addition, and in this way a print that has been considerably over-printed, or that has been too long undeveloped after printing, may be developed into just what it ought to be.

On the Choice of a Lens.

THE fact that rarely a week passes in which we are not consulted as to the choice of a lens must be our excuse for again dealing with a subject that to most of our readers will appear to have been already threshed out.

Opticians and dealers are to a large extent to blame for the hazy notions still too prevalent amongst photographers generally as to what a lens will and will not do. "It is the lens that does it," so often stares them in the face that they begin to believe it in a sense in which it is not true; and are too apt to lay the blame for a certain class of failures on the lens rather than on the man behind it. Then, too, the much that has been said and written, and with truth, about the perfection of the modern anastigmats has gone far to lessen in the esteem of their owners the older but still more generally employed rectilinear, and, for its proper purposes, even the single lens.

We homologate every word that has been said in favor of the modern anastigmat; indeed, there are branches of photography that we should not think of undertaking without them; but for ordinary pictorial work, and that of the very highest class, they possess no advantage over their more modest predecessors. Their principal characteristics are flatness of field, superexcellence of definition, and, some of them, rapidity or large working aperture; none of which are essential to picture making, and some of them, in some cases at least, are objectionable.

For sufficiently exposed hand camera work one of the more rapid anastigmats is to be recommended, and for the taking of small negatives for enlargement, where flatness of field and perfect definition are essential, one should always be employed; but for all other pictorial purposes the rectilinear, and for some of them the single lens is in every way as good as the best anastigmat.

For all kinds of pictorial work the most important feature of a lens is its focal length, as only by a lens once and a half as long as the longest way of the plate can a perspective that *appears correct* be obtained. Those to whom money is not an object, and who have pleasure in the possession of things that are perfect, should invest, say for a 5 x 7 outfit, about \$70 in a 10½ anastigmat; but he who has to count the dollars may do in every respect as good work with one of the rectilinear type of about the same length, costing from \$20 to \$30, or if he aims only at landscapes pure and simple, he may do equally well with a single lens at about \$6.

The following little story has its moral. One of our friends to whom money is not much of an object, and with whom photography is a

hobby, has spent not much less than two thousand dollars on lenses, including anastigmats by most of the makers both here and in Europe, and varying in focal length from a planar of about four inches to a collinear of 31 inches. Some time ago we spent an afternoon examining each other's pictures, and at the end of the seance he expressed himself as follows, introducing the expression with a kind of sigh. "It beats me to see how you manage it. You seem always to make the eye go at once to what you call the objective point and to hardly see, or at least not notice, anything else in the composition, while in every one of mine the eye wanders all over the print as if there was nothing more particular than another that should be seen. I have hunted almost all over the world for the lens that would do just that kind of thing, and not one of them will come anything near it. It's not, as you so often say, the man behind the lens that does it, as you know very well that the several times when I have borrowed your lens it has given me just the kind of thing I want; and little as you seem to value it, I will give any one in my collection for it." Now the lens in question is an imitation of Dallmeyer's rectilinear, of 11 inches, made in Birmingham, and cost 30s. (\$7.20) about 25 years ago.

In conclusion, we repeat that given a sufficient length of focus—our 11 inch is employed on $7\frac{1}{2} \times 5$ plates, not the lens but the man behind it makes the pictures, and we may add that the man who cannot make pictures with such a lens, and on such a plate, will not be able to make them with any kind of lens.

Particular attention is directed to the picture of the proud mother and her brood on page 159. The wealth of detail and beautiful rendering is proof alike of the quality of the Hammer Plate and the skill of the artist, Mr. C. E. Vilmer, of Crown Point, Ind. The half-tone does not do justice to the print on Aristo Jr.

The EASTMAN KODAK COMPANY have opened a wholesale depot at 3-7 West Twenty-second street, New York, for the benefit of the trade. At present a full and fresh stock of the American Aristo Co.'s specialties are on hand. All the products of the General Aristo Company will be carried.

Surely Mr. G. W. Pach, of Pach Brothers, New York, is one of the most liberal of men. At the Milwaukee convention he exhibited some very fine specimens of work in carbon, and on going to take them down found that some unknown friend had saved him the trouble, even going so far as to save him the trouble of carrying them home. Since then he has tried in vain to discover the friend who was so obliging, and being very anxious to see them once more, now offers to pay both the freight and the boxing, and give a neat little cheque beside.

Words From the Watch-Tower.

BY WATCHMAN.

WE are a strange people in some respects. We boast of being free, and probably in some respects we are so; but there are a good many things we have to do, and some that we cannot do, that are hard to reconcile with true freedom, as some folk understand it.

Whenever anything very good, say, in the photographic line, is introduced by our manufacturers, our friends across the water can soon get it, and frequently cheaper than we can here; while of the thousand and one things that are constantly being introduced there, we either cannot get at all, or at a cost of nearly double their value. Everybody knows why, but nobody seems to know how to bring about the necessary freedom.

I always feel like this when I hear of something new and good on the other side, but which for the aforesaid reasons we are not likely to see on this, the latest being a so-called

CHROMATYPE PRINTING PAPER.

This is the present popular gum-bichromate reduced to the simplicity of "P. O. P." It is generally admitted that the only real difficulty in working that method lies in the coating of the paper; and it is now offered to the British photographers in all colors and shades, ready for sensitising. For this operation it is only necessary to immerse it in a five per cent. solution of potassium bichromate to which a few drops of glycerine have been added, or rather to immerse it face down and draw it through the solution from six to ten times so as to prevent air bubbles, and pin it up to dry. Development is by immersion in water at a temperature of from 100° F. to 115° F., and where the exposure has been full, or maybe a little over, a little fine sawdust, a parcel of which goes along with the paper, is added to supply a little needed friction. A few minutes in a weak solution of sodium bisulphite clears the whites, and as long in a solution of alum hardens the film, and the print is said to be in every way satisfactory. Who will be the first to furnish such a paper to the American photographers, and at the same time get fame and fortune for himself?

WHEN IS A PLATE FIXED?

The technical committee of the Photographic Society of Philadelphia has reported, in answer to this question, that contrary to the text-books and to general belief, plates immersed in a 25 per cent. solution of hypo, until the creamy appearance had altogether gone, were found by the ordi-

nary tests for silver to be quite free from any of its salts. From the tests and the men that made them I have no doubt that the report is quite correct, but the solution of hypo was fresh and of known strength, and as it does no harm to leave the plate for the usual length of time after the disappearance of the silver bromide, we had better stick to the good old and sure way. I never saw a negative that had suffered from being too long in the fixing solution, but have seen many a one that was simply ruined from having been taken out of it too soon.

UNDER OR OVER-EXPOSURE?

In an article by Dr. Lionel M. Homburger in a recent number of *The Photographic Times*, there is something almost "new under the sun." He tells us that he prefers "contrasty" negatives, and to get them under rather than over-exposes. He uses his "quickest" shutter, and when the light is not quite sufficient employs the larger diaphragm. The doctor does not say anything about the speed of his shutter, nor the value of his stops, but unless the former is very, very slow and the latter very, very large, I would very much rather judge from an examination of his photographs than take even his word for their quality. The wiser a photographer becomes the more thoroughly he aims at a *correct* exposure, and when he is not quite sure of just what that ought to be he will always make sure that it will be *over* rather than under.

SIGNALLING TO CHANGE THE SLIDE.

A writer in *Photography* asks "Which is the best method of signalling to the operator for the next slide to be shown on the "screen," adding "I am very far from satisfied with any of the dodges I have seen up to the present." The best way is not to signal at all. They must be a poor pair, the lecturer and his operator, who cannot do without an audible or visible signal; who cannot, the one in his talk, lead on or give the cue, and the other to catch it at the proper moment. I speak from an experience of more than twenty winters, during which I lectured with the lantern, sometimes in halls where there was not less than a hundred feet between the operator and myself, and although we now and then met with some of the mishaps incidental to such work, they did not once include a mistake in the catching of the cue.

"A little farther on we come to," or "Compared with such buildings as the new," referring to some building next on the screen; or "we now cross the ferry and come to," etc. The lecturer that cannot give, and the operator that cannot take, such hints are not fit, the one for the platform and the other for the lantern, and should turn their attention to something else.

Obituary.

It is our sad duty to record the death of Gottlieb Gennert, which took place at his home in Jersey City on March 5th at the ripe age of 75 years. He leaves a family of two daughters and four sons, to whom we extend our sympathy. The death of Mr. Gennert removes one of the most prominent and highly respected, if not the oldest, representative of the photographic stock industry in this city. A large representation of prominent men in the photographic trade and profession, in addition to social acquaintances and family friends, paid their respects to his memory at the funeral. Born in Germany on June 19, 1826, this country has long been his home. Mr. Gennert will be remembered as one of the first dealers in photographic supplies to introduce the gelatine dry plate commercially in New York City. He was the agent as long ago as 1882, and perhaps 1881, of the noted Cramer & Norden dry plate, which even then had a good reputation for uniformity, reliability and rapidity. At this time Mr. Gennert was located in a small store on William street, near John, his business then being confined mostly to the importation and sale of albumenized paper. The business will be continued without change by his sons, who have long been in active management.

H. P. ROBINSON.—We regret to notice the death of this well-known and much loved veteran photographer, known on this side almost as well as on the other. Born in 1830, and died on February 21st, 1901, he had passed the "three score and ten," and the greater part of that "allotted span" he had given to the art that he loved so well and did so much to foster. In Great Britain, a universal favorite wherever photography holds sway, and a leader in pictorial effort when technique was the alpha and omega of the art with all but a chosen few that could be numbered on the fingers of one hand; but he is best known on this side by his books. His "Pictorial Effect in Photography" and "Picture Making by Photography" are, or should be, in the hands of every one who desires to make pictures, and his other, and on this side less known, works are equally valuable.

Although not the first to practise combination printing, he carried it to a greater length than any of his predecessors, and some of the pictures so produced have become classic. While one of the founders of the London Salon, his work never had any of the grotesque features that characterised much of its earlier exhibits; and it will live long after such efforts are forgotten. While fully recognising that "nature is not art," he never allowed his art to violate nature; and although he sometimes spoke slightly of the "weighing and measuring men," he had too high a regard for photographic technique to let slovenly work leave his hands.

He had the pen of a ready writer, and used it freely, either for the instruction of his fellows or to maintain what he believed to be truth against all comers. He will be sadly missed, but his work and his writings will keep his memory green.

Our Portfolio.

Communications for the editors, pictures for criticism (only one print at a time) and apparatus and material for examination, should be sent to Dr. John Nicol, Tioga Centre, N. Y.

1173. WILL G. HELWIG.—“Little Mischief,” a child in a “table chair” seen through a window, is excellent so far as the child is concerned, but everything except the child is simply blackness of darkness, and consequently far from a success. Such an arrangement should be lighted so as to show some indication, at least, of what the surroundings are. The portrait of the child with a suitable background would have been fine, while as it is, it is a failure.

1174. F. C. BAKER.—“In the Fields,” a couple of men working in the foreground, the part of a barn in the distance, and a fine sky, all work together to make a really good picture, which we shall have pleasure in reproducing as an attractive initial.

1175. F. P. TOLLES.—“Over the Hill” is a good subject not well photographed, mainly because spots of high light are scattered all over the print. We should say that the exposure has been too short and the developer too strong in reducer, the result being that there is nothing but white and gray, a thorough want of true tonality. The road is whiter than ever was road even in the most dusty time, and the points of light are scattered all over the foliage as if from a pepper box.

1176. C. H. BROOKS.—“Snow Scene,” as represented here, is a failure. Surely you should see that blackened paper does not in any sense represent trees and foliage, nor perfectly white paper represent the sky. Although it is better to get things right by suitable exposure and development, this might be very much improved by local treatment of the negative. Reduce the sky to its proper tone, cover the foliage by a yellowish wash on the back of the negative, and trim off an inch and a half of the unnecessary and uninteresting foreground.

1177. F. E. BRONSON.—“Jack-straws,” three boys engaged in that game, has some good and some bad qualities. The lighting is far too hard, that is, the exposure has been too short and development pushed till the faces are without texture and the shadows without detail. Then the arrangement has been such that the table is tilted as if about to fall. Twice the exposure would have given truer values and made it a fairly good picture.

1178. W. T. SIMPSON.—“Solitude” is an excellent selection and conveys the desired impression very well. The water is more translucent, more like real water than we generally find, and it needed only a little more exposure to be faultless. But the shadows are too deep, black indeed, and the sky simply white paper, a thing no longer tolerated. An exposure of half as long again would have been about right. We shall reproduce it.

1179. C. F. PACKE.—“The Rustic Bridge” is an excellent photograph of a poor subject, that is, poor from this point of view which reproduces the bridge in straight horizontal lines across the print, and it is made worse by printing under an oval mask. Never employ any kind of fancy shape unless there be some reason for it, which there is not here. Study some work dealing with art and composition. The color is rather red, but that is a matter of taste.

1180. T. C. KEYS.—“Entrance to Highland Park” is simply black and white, a result of much under exposure. Nor would it have been of interest even with a full exposure, as there is simply three belts running horizontally across the print; first a bare foreground, then a broader line of blackness, and lastly a line, a little narrower,

of white sky. You should not attempt to snap till you have learned the limitations of the hand camera.

1181. D. H. SWILER.—“Over the Hill” is very much better from a technical point of view than most snow scenes that we see; and even from the pictorial it has good qualities. But it might have been better. The lights are too scattered and the figure is placed too near the margin. An old man toiling up the hill is suggestive, but the suggestion would have been more impressive had he been toiling down. Then, what has become of his footsteps in the snow? He could not have got to his present position without leaving some trace of his path. As snow scenes go, however, it is very good, and although the color is unfavorable we shall try to reproduce it.

1182. C. C. TYLER.—“Forsaken.” Your own description could hardly be improved. “A desolate old tombstone in a tangled and deserted field, a place full of pathetic suggestion,” and you have succeeded admirably in reproducing it in the picture. Decay and neglect are finely indicated by the stone being a little off the vertical, while the tree under which it shelters gives a hint of a protecting care, suggesting the fact that the stone is not the end, that there is something beyond. There is just one little fault, so far as we can see; the little square of light, something not unlike another stone, on the left, which tends to divide the attention and even take it from the stone itself. This could be easily removed, and its removal would be a great improvement. Taking it all in all, it is a fine picture that we shall try to reproduce, although it will lose much in the process.

1183. W. H. STANCHFIELD.—“The Young Artist” is a very good photograph, but we wonder why you did not see that there is something very much wrong with it as a reproduction of fact. You have been trying to make the lens do something for which it is unfitted. The girl is seated at a table on which both arms are leaning, while she draws apparently from the wrist, and her head is bent so that its crown is considerably in advance of the lower parts of the face. In consequence of the much too short focus of the lens for such work, you have had to go so near to get the figure the size desired as to produce an apparently unnatural perspective, with the result that the crown of the head looks much, very much, too large for its lower parts. For a head of this size the lens should not be shorter than twelve inches, while that employed could hardly have been longer than half that.

1184. JESSE TRUEBLOOD.—“Threshing” is a fairly good photograph of the record of fact variety, but with no claim to be a picture. Having overcome the difficulties of technique, you should study some work on art, and try to make pictures. Record of fact photographs have a use, but they are so easily produced that there is little credit to the producer, while *pictures* tax the energies of the best and bring fame to those who succeed.

1185. W. H. BLACAR.—The snow scene is good and might have been better. The snow is really fine and the buildings are well rendered, but the sky line is so nearly in the middle, the weakest part, as to give a feeling of weakness to the whole. The sky is also far too white, but might be easily reduced to something like the natural tone. From an art point of view you might have selected a better selection, something other than a straight line of buildings; a narrow strip dividing the sky from the snowy foreground.

1186.—A. A. DEAN.—“Charlotte” is an excellent portrait of the professional order, very much better indeed than nine-tenths of the work of even the best of the professionals. The photographic technique is perfect, while the suggestion of that inner something that converts a portrait into a picture is not wanting. The only

fault we have to find with it is its having been printed under an oval mask, which, although affected by some good artists, conveys a feeling of instability from the want of a proper base. We have seldom seen the impression of gauzy drapery so beautifully rendered, and shall have pleasure in reproducing it.

1187. H. PUMPHREY.—The unnamed print was not worth the “faking,” the subject, from this point at least, being neither picturesque nor pictorial. The ugly bridge leads out instead of into the picture, and from the employment of a far too short focus lens, is very much exaggerated in size. Then, the definition in the distance is very much better than the immediate foreground, indeed the latter is merely a blur. Don't forget that while there may be a picture without definition, the lack of that quality does not make a picture. With an aperture of No. 28, which is $f/45$, you could hardly expect to secure an appearance of atmosphere, $f/11$ or $f/22$ would be nearer the mark. The clouds are fairly well printed in, although the sky is a little too dark. With the bridge left out, or perhaps from the bridge, it seems to us that you might have had a fairly good subject; but don't seek to subdue detail by printing under a number of sheets of celluloid; you will find that better done in the focusing.

1188. J. V. STREET.—“Moonlight on the Water” looks more like what it is intended to represent than anything that we have seen for a long time; the only real fault being a little want of a desirable ripple spreading out from the “silvery beam,” and the all too black mass at the upper left. Good as this is, you could get a much better print from the negative by a little dodging. We shall reproduce this.

1189. CARL C. DISTLER.—“Girl With Book” is an ambitious effort and fairly successful. Pose, expression and lighting are good, although a little more of the latter would have been an improvement, the shadows being a little too deep. We also think that a different arrangement of the shading of the background would have been better, the light of the face against the dark of the background rather than the reverse. An examination of the hands, which are considerably in advance of the rest of the body shows clearly the necessity for a lens of longer focus for this kind of work, as they are most painfully enlarged. It should never be forgotten that for portraits of this kind the lens should not be shorter than twice the length of the longest way of the plate. We shall have pleasure in reproducing it as an object lesson, and may add that we should have liked just a shade less haziness in the face.

1190. A. G. GRAFF.—“The Lakelet.” This is one of a class of photographs that least of all others we like to see coming to “Our Portfolio.” They are so good—some barely escape having true pictorial qualities—that there is great danger of their authors thinking more highly of them than they deserve, and resting on their oars, instead of more energetically than ever “putting a stout heart to a stev brae.” This is a fine subject from probably the very best point of view, with a fairly good sky; but from the employment of too small a stop the distance is as well defined, indeed, a little better than the foreground; and in consequence of a too short exposure the shadows and objects in the shade are far too dark. From this fault also the water is without the necessary translucency, is opaque and dull, and only known to be water by its surroundings. As it is, it is simply a pretty photograph, but one that with a larger stop, say $f/11$, and a sufficient exposure might have had the essential atmosphere, the detail in the shadows, and the translucency of the water that would have made it a very fine picture. We shall reproduce it to show both what it is and what it might have been.

1191. D. STRICKLAND.—“Afternoon Tea” as a first attempt at *genre* is fairly successful, although there is room for improvement. The idea of placing the little

ones under the shade of a tree is good, but one with a single stem would have been much better, as this, with its many stems or trunks, gets a little unpleasantly mixed up with the heads, confusing what should be simple. Then, the angular composition of the group, made worse by the little cupboard like thing on the left, is hardly pleasant, nor is it balanced properly by the perambulator on the right. A better arrangement would have been the removal of the perambulator and the placing of the cupboard in its place. This would have balanced the small child on the left, and given an oval composition that would have been much more pleasing. The technique is perfect, and with the suggested alterations, would have been a fine bit of *genre* work. We shall have pleasure in its reproduction.

1192. E. M. HULBERT.—“Down in Dixie” just misses being a really fine picture. The photography is excellent, the subject very fine; but what should be the main object, the three little niggers coming from the store, are three wooden figures placed in the very worst place, the center of the picture. Fine as such a picture is when right, it is worthless unless you can give your figures something like action, and especially never let them stare at the camera. Another fault is the apparently unnatural perspective, the result of employing a lens of much too short focus for the size of plate. By extending the line of the sidewalk on the right the road in the foreground is about ten inches wide, while it dwindles to less than an inch within a distance of two inches.

1193. W. C. HOLMES.—“A Hillside Pasture” has only one fault, but that is so serious as to render all else worthless. The exposure has been so short that everything not in direct light is simply blackened paper. And, curiously enough, some of the deep shadows seem to come from the dark sides of the trees. The tree on the right, for example, being lighted from the left, and on the right as black as black can be, seems to be casting a shadow almost as black, from the dark side right across the print. There are no such whites and blacks in nature and there is no room for them in that which is intended to represent it.

1194. HENRY POPP.—“A May Evening.” We confess to a liking for this, although hardly anything in it is just as it should or might with great advantage have been. The only faultless thing about it is its simplicity. It is merely a country road with trees on one side and a fence on the other, a large expanse of sky, bare except for a few clouds near the horizon; but with a little more thinking out, might have been made a fine picture. But the sky, except for a little toning down from the zenith, is nearly white paper, and so far too luminous for an evening effect; while everything except a slight indication of tracks in the road, is simply blackened paper, giving a contrast that is painful; and to make things worse, there is four and a half inches of sky to one inch and three-quarters of landscape. Then, the point of view is direct in the middle of the road, giving a mechanical effect to the composition, while a minor fault is the larger tree on the right too closely parallel with the margin. Try trimming an inch and a half from the sky, which at present dwarfs the landscape, protecting the latter so that it may print considerably lighter, and print the sky very much deeper and we think you will have a much better representation of “Evening.” We reproduce this as an object lesson on page 162.

1195. A. M. SUTTON.—“Moonlight Scene.” A thirty-six minutes’ exposure on a clear moonlit night has resulted in simply a waste of good material, a mixture of black and grey of no interest to anyone. The same view with half of the all too much foreground given to the sky, and photographed in the light of day might have made a really good picture.

Our Table.

Apparatus and material for examination and report should be sent to Dr. John Nicol, Tioga Centre, N. Y.

W. P. BUCHANAN, 1226 Arch street, Philadelphia, offers to send a copy of the *Photo Ticker* free to every photographer. Send in your request before the edition is exhausted. It is his treat.

* * *

THE SPRED-LITE FLASH LAMP.—From the Kenilworth Company, of Arlington, N. J., comes one of their new "Spred-Lite" flash lamps, constructed, we think, on a sounder principle than most of those already on the market. It consists of a metallic trough twelve inches in length and one and three-quarters wide. Near the middle, and in the inside of the trough is a rigid hammer or doghead, and on the outside a strong brass spring carrying a disc, also of brass, which, when at rest, passes through a hole in the bottom of the trough and presses against the hammer. A wooden handle half an inch in diameter and twelve inches long, with on its upper end a suitable trigger and cord-suspended ring, screws into a hole in the center of the trough; the lamp having the appearance of a not well proportioned "sans serif" T.

To operate the lamp, the cap, one of those small paper discs used in toy pistols, is placed on the brass disc carried by the spring immediately under the hammer; the powder, about seventy grains in a charge, is strewed along the whole length of the trough, and the trigger turned so as to be below the spring. All thus ready, the handle is grasped with one hand, the forefinger of which is hooked into the ring, and the lamp held at any desirable distance; our limit is seven feet. A pull on the ring sets off the flash, a long thin flame of probably ten times the actinic value of the same quantity of powder burned in solid mass. The lamp is substantially made, well thought out, and includes even a brush with which to clean out the trough, which should be done always before putting it away. Since writing the above we have put the lamp to the test of practical work and are able to speak of it even more highly than we anticipated. With a twelve-inch R. R. working at $f/8$, the lamp on the right of the camera and well in advance but properly screened from the lens, and a suitable reflector on the right, we have got a series of half length portraits that not even an expert could say that they were not taken in a studio. We have been equally successful with interiors, although a larger quantity of powder was required. Indeed we used two of the seventy grain boxes, and although the makers say that is the limit that should be put into the trough, we shall not be afraid to use three in a larger room that we meant to try, but although we have no fear that unconsumed powder may fall, we shall put a glove on the hand that holds and operates the lamp.

We have no hesitation in recommending the "Spred-Lite" Flash Lamp as a thoroughly practical instrument, and one that gives more actinic action for a given quantity of powder than any lamp that we have hitherto tried.

* * *

THE PHOTO-MINIATURE for February appeals less to us than usual, as it seems to a considerable extent made up of things that one should "know without telling." But perhaps we are wrong, even simple things do not come to all alike. We have amusing recollections of the difficulty of driving into the heads of some of our students an idea of what was meant by parts, and found that nothing short of sending out for a shilling's worth of pennies would do it; and those young men were supposed to be fairly well educated and had passed a pretty exacting preliminary

examination. The February *Photo-Miniature* deals with "Photographic Manipulation," and if it was necessary to deal with the simplest of simple matters, it could not have been better done. It has been dealt with in the *Photo-Miniature* style, and we can give it no higher praise.

* * *

For those who desire the finest results from their negatives, combined with absolute permanence and artistic merit, we recommend a trial of Bradley Platinum Paper. We would also remark the fact that as all chemicals and raw paper is manufactured exclusively for this article, under direct supervision of Mr. Bradley, only the highest grade materials are used. The emulsion number is 122 for April, and increases one number each month, thus, May—123. Consumers can thus ascertain how fresh the goods are when purchasing. For further particulars see his announcement on front inside cover.

* * *

FROM F. H. Patterson, Norristown, Pa., we receive samples of his Pattersontype water tone paper, which, as the name implies, only requires water for its development. The range of tone is all that can be desired, with pure blacks and clear whites. As the manipulation is easy and permanence claimed for the results, the paper should have a ready sale.

* * *

ONE of the cardinal virtues of a tripod is the facility of its leg movement in bringing the camera into the desired angle of view, but, once the desired level is obtained, that virtue ceases if we desire to move the tripod backward or forward. An appliance is now on the market which makes the handling of a tripod a pleasure, whether in a room, on a slippery pavement, or on a stormy day. It is Mellen's Adjustable Tripod Stay, and no one who knows the real benefits derived would be without it at the low price of 75 cents. A slight turn of a screw binds the legs of the tripod firmly in any desired position. It is not cumbersome, and is easily carried with the tripod. This handy contrivance, and also an accurate view angle meter, adjustable to any size plate or lens focus is manufactured by the Mellen Mfg. & Pub. Co., 96 Fifth Ave., Chicago, and may be obtained of all dealers.

* * *

CAMERA NOTES.—The April number of this always interesting magazine keeps up its well deserved reputation, although we can hardly get sufficiently in line to *feel* pleasure in the examination of either White's "Telegraph Poles" or his "At the Edge of the Woods—Evening." It may be that we are mistaken in the notion that art is intended to give pleasure, and that there would be much more of that in light than in darkness, but each must judge for himself, and we prefer light to darkness where portraits are concerned. It is doubtless a clever feat to make a picture with a lot of the ever obtrusive telegraph poles in the way, and we must confess that White has gone pretty far to accomplish that.

* * *

PHOSPHATE OF SILVER PHOTO PAPER.—From the Phosphate of Silver Photo Paper Company come samples of that interesting printing out paper just as we were about to go to press, and we have had time only to make a few experiments. We have seen enough, however, to show that it possesses some very desirable qualities, and to be able to prophecy for it a large degree of popularity. It is considerably more sensitive than most printing out papers, needs only a wash in two changes of water before fixing, and, fixed in a 1 to 32 of hypo, it gives a print in sepia that is in every way satisfactory. Nor is that all. It is amenable to all kinds and sorts of toning in gold,

platinum, or any of the other toning material, and gives tones as varied as the most exacting can desire. We shall return to it again when we have had time to exhaust its qualities.

* * *

The making of enlargements is a pleasure if you use an Ideal Enlarging Lantern. No one who does any amount of work can afford to be without this handsome and substantial apparatus. It is made in three sizes, but the smallest has 6 in. condensers, fully covering a 4 x 5 plate, and is capable of enlarging from any portion of an 8 x 10 negative. It is also adapted for use as a lantern, and slide makers will appreciate the advantage of being able to give home entertainments. The price is \$25.00, fitted with oil or incandescent gas light. Lens extra, according to quality. The manufacturers, Burke

& James, 111 Wabash avenue, Chicago, will be pleased to send full particulars.

* * *

THE fact that many of the best workers are using Lovell plates exclusively is sufficient to prove that these plates will give the finest results. Whether fast or slow, no plate is a success unless skillfully handled. Given a proper exposure, and Lovell plates will stand a full exposure, the gradation of tone is all that can be desired. We have done some very satisfactory work on Lovell plates, and recommend for them a fair trial.

* * *

LARGE quantities of useless "ray-filters" and other lens adapters are being foisted upon the public at present, the use of which can only result in disappointment. The cost of production of optically perfect glass will not permit of these articles being sold or given away for next to nothing. Our high opinion of the Bausch & Lomb ray filter is well known, but those who want something cheaper should get one that we have recently employed with much satisfaction. This is the Ideal Ray Filter, manufactured by Burke & James, 111 Wabash avenue, Chicago. It is made of two plates of optically perfect parallel glass, cemented together with the coloring matter between. The color is the most satisfactory we have tried, and gives excellent satisfaction for general work. No hand camera is complete without a ray filter, and at the low price of \$1.00 the Ideal should have a large sale.

* * *

"BOFLAY" is the name of a new liquid automatic developing and fixing compound, a sample of which has been sent to us for examination and trial. Two or three plates, variously exposed, were placed in it, according to the directions, and in each case the density of the negative was almost alike. "Boflay" should prove valuable in the development of films and doubtful or mixed exposures. It is automatic in its operations, the fixing not beginning until the plate is sufficiently developed. For this reason it will be useful to beginners who frequently make the error of removing the plate from the developer too soon. We hope to make a further report on this new compound at some future time. Hudson & Morford, 325 Broadway, New York, supply the trade, and will give full particulars.

* * *

THOSE who have never used an air brush can have little perception of the facilities of this wonderful tool. No artist, draughtsman or photographer can afford to be without one in this age of progress. Next month we will have more to say about the art tool manufactured by the Air Brush Manufacturing Co., of Rockford, Ill.

* * *

CHINOLIN RED, a product of Actien-Gesellschaft fur Anilin-Fabrikation, Berlin, is a new sensitizer for orthochromatic effects. It is soluble in water or alcohol, and is said to give the most perfect rendering of the spectrum. The price is \$1.00 per gramme, and it may be obtained of the Berlin Aniline Works, 72 Front street, New York, the American branch of the German concern.

Hand Cameras of 1901.

THE AMERICAN AMATEUR PHOTOGRAPHER has always aimed to supply its readers with timely and authentic reports of new discoveries and new apparatus in the photographic field. In pursuance of this object we herewith briefly describe some new hand camera models and improvements on last season's lines by the principal manufacturers. Owing to lack of space and the late date at which some of the matter reached us we will continue the review in our May number. Next month we will also have valuable articles by experts in hand camera work.

KODAKS.

EASTMAN KODAK CO., ROCHESTER, N. Y.

The magic word "Kodak," synonym of perfection in hand cameras, has been the password of thousands of amateurs into the realms of photography. The advent of rollable film and the portable kodak was hailed with delight by travelers, cyclists, and all lovers of scenery. Improvements followed in rapid succession. The "Double Two" daylight cartridge is now the acme of portability and convenience in films, while no one who sees a copy of the Eastman Kodak Catalogue for 1901 could resist the charms of "The Witchery of Kodakery."

Cameras to suit all purses and the most fastidious taste lie before us, from which we give a brief description of the most popular styles

No. 2 Flexo Kodak.

For pictures $3\frac{1}{2} \times \frac{1}{2}$, is a well made instrument. Has a fixed focus achromatic lens of $4\frac{1}{2}$ in. focus, three stops, time and instantaneous shutter, takes 12 pictures without reloading. Best value in a camera we have ever seen at the price—\$5.00. Covered with grain leather, handsomely finished, and weighs, when loaded, 20 ounces.

Bull's Eye Kodaks.

The popular "Bull's Eye," pioneer of the cartridge system, is now made in four varieties, and also in the folding pattern. Aluminum is used wherever possible and for lightness and serviceability it is unsurpassed. The No. 4 Bull's Eye is fitted with two finders and tripod sockets. The symmetrical lens supplied with the special is of superior quality, and in conjunction with the focusing arrangement makes this camera most desirable for those who prefer the box camera because it is always ready for use. Prices range from \$8.00 to \$20.00.

NO. 4 BULL'S EYE.

Bullet Kodaks for Films or Plates.

The additional advantage of being able to use film or plates is presented in the Bullet. It is made in four styles, and the No. 4 is fitted with ground glass and focusing scale. Prices according to lens, from \$10.00 upwards. The No. 2 Bullet, for $3\frac{1}{2} \times 3\frac{1}{2}$ pictures, are now fitted with double instead of single plateholders, improved noiseless winding key and brilliant finders.

NO. 2 BULLET SPECIAL.

Cartridge Kodaks for Films or Plates

The various sizes of this popular instrument are now of uniform design. The new models are handsomer than ever. Aluminum is largely used, and an extension bed allows objects to be focused at 16 inches from the lens. In convenience, durability, scope and beauty, the Cartridge Kodak maintains its supremacy. Excellent rapid rectilinear lenses are fitted, mounted in triple action shutters, with iris diaphragms. The plate adapter and ground glass, with the extension focusing bed makes it serviceable for the most critical work.

The Folding Pocket Kodak

Marks the highest achievement in portable cameras, perfect in every detail. Made to fold in a novel style, they readily fit into an overcoat pocket. For the tourist who desires a reliable instrument always at hand to record passing scenes, the folding pocket Kodak fills the bill. To see one is to covet it. Prices range from \$10.00 up. The lenses on these cameras are of sufficient length of focus to produce pictures of most pleasing perspective, while the R. R. lenses permit their use under all conditions of light.

The Panoram Kodak

Supplies the photographer with a convenient instrument for taking broad landscapes, views of cities from high buildings, river and marine views. They are furnished in two sizes, uniform in style. No. 1, picture $2\frac{1}{4} \times 7$, \$10.00; No. 4, picture $3\frac{1}{2} \times 12$, R. lens. \$20.00.

GOERZ LENSES ON EASTMAN KODAKS.

C. P. GOERZ, 52 UNION SQUARE, NEW YORK

Herein is combined the acme of perfection and neatness. The No. 3 Eastman Folding Pocket Kodak, fitted with Goerz Series 3 lens and Sector shutter, is the most modern, perfect and portable outfit ever offered. The lens works at $f/8$ and has a focus of $5\frac{1}{4}$ inches. It cuts sharp to the corners at full opening, and thus may be successfully used under the most adverse conditions of light. The Sector shutter is the finest piece of mechanism in shutters and may be operated by finger release or by bulb. The focusing scale is accurately fitted, and the camera folds when not in use exactly as in the regular Eastman pattern. The lens and shutter are removable and may be used also on other cameras. Those who desire the finest the market affords should correspond with C. P. Goerz, who will gladly furnish quotations.

HAWK-EYE CAMERAS.

BLAIR CAMERA CO., ROCHESTER, N. Y.

Established in 1881, when instantaneous photography was in its infancy, this firm has kept pace with the march of improvement in hand cameras. The first camera the

writer ever used was a Blair Hawk-eye, a cumbersome affair for use with glass plates only. In marked contrast to its size and weight is the Weno Hawk-eye now before us. This is a trifle over one-half the size of the ordinary 4 x 5 non-folding camera. The lens is an improved achromatic meniscus, set focus, and covers the field under all conditions. The shutter is of rotary design with variation of speed for instantaneous exposures, and can also be set for any length of time desired. A set of three stops, tripod sockets, brilliant view finders, both horizontal and vertical, nickel fittings, morocco grain covering and fine workmanship throughout makes this a very desirable outfit for those who prefer a camera in the 4 x 5 size with all improvements, at a moderate price. Being in box form it is always ready for making an exposure; there is no camera in existence more easily operated.

4 x 5 WENO HAWK-EYE.
Also made in 3½ x 3½.

The No. 3 Folding Weno Hawk-Eye

Is a neat pocket camera having a pneumatic release shutter with iris diaphragm stops. This shutter is always set and can be operated by bulb or finger release for instantaneous or time exposures. Fitted with double rapid rectilinear or single set focus achromatic meniscus lens, as desired, either of which produce first-class results. A brilliant reversible finder, sockets for tripod and focus scale are provided. There are no parts removable other than the back cover, and the loading and unloading can be safely done in the open air with either Cart-ridge or Perforated Daylight Loading

FOLDING WENO HAWK-EYE.
Made in 3¼ x 4¼ and 4 x 5.

ing Film. The mahogany polished front bed, the nickel trimmings, morocco grain covering, lacquered brass shutter and leather bellows of maroon shade, create a contrast which makes a handsome looking instrument, which is also a marvel at the price.

Stereo Weno Hawkeye

Heavy and bulky apparatus is generally associated with stereoscopic photography. This idea can no longer prevail when we can get a stereoscopic camera that measures when closed 1⅞ x 4⅜ x 10¼ inches and weighs 28 ounces. The Stereo Weno Hawk-eye can be readily carried in the pocket. The lenses are double rapid rectilinear, accurately matched and centered so that the exact perspective is obtained with each lens, thus producing negatives correctly matched of equal size. The shutter is a double pneumatic with iris diaphragm, operated by either bulb or finger release, and permits making instantaneous or time exposure with both lenses at the same time and of the same duration. The trimmings are nickled, and the camera throughout is beautifully finished.

KORONA CAMERAS.

GUNDLACH OPTICAL CO., ROCHESTER, N. Y.

The Gundlach Optical Co. have added several new designs to their line of Korona cameras, and many improvements that will be appreciated by hand camera users. All the better grade Koronas are furnished with brilliant finders that show the image clear and bright under all conditions without the necessity of a hood to exclude extraneous light. The use of the focusing cloth is rendered unnecessary by a unique contrivance which forms a hood completely shading the ground glass, with an opening wide enough to examine each part of it. This hood or shade opens automatically and does not add any extra weight -- bulk to the camera.

We herewith illustrate the Korona Series III., showing the new bellows. The lenses fitted to these cameras are said to be of the finest quality, and the Korona Long Focus is regarded as the only camera of this design fitted with a convertible lens system. The Turner Reich Convertible Anastigmat, manufactured by this company is considered equal or superior to any of those made under foreign patents.

WIZARD CAMERAS.

MANHATTAN OPTICAL CO., CRESSKILL, N. J.

While this company have submitted no new models, they have kept the popular styles of Wizards up-to-date in improvements. Much of the best work submitted by our subscribers is executed with Wizard cameras. From their catalogue, which shows complete cameras from \$5.00 to \$100.00, there should be no trouble in making a judicious selection. As they manufacture their own lenses as well as cameras, they are well qualified to satisfy the wants of their patrons.

LONG FOCUS WIZARD.

CENTURY CAMERAS.

CENTURY CAMERA CO., ROCHESTER, N. Y.

This company is new in name only, as its officers and directors are all men who for many years have been identified with the manufacture of the finest and most popular lines of cameras in the market. Century Cameras are manufactured of mahogany, and dovetailed, insuring greatest strength. Every bellows is lined with rubber cloth, carefully cemented, which renders it perfectly light proof. The best raw materials are used, and all parts are handled by skilled mechanics—men trained by years of experience in their respective departments. Add to this the fact that Century Cameras have lenses of the best type, and shutters of the most improved design, it is self-evident such a combination can only result in a finished product of the

CENTURY MODEL A.

highest order. Model A is made in 4 x 5 only, and with achromatic lens is sold for \$8.00. Model B is the same camera with rack and pinion, and is made in 4 x 5 and

5 x 7. Model C carries the Century R. R. lens and double valve shutter. Model D comes with a special symmetrical lens. Model E has all the requisite movements for advanced work, swing back and swing bed, and double extension bellows. Model Grand is perfection in finish and construction. The triple section telescopic bed is made on an entirely new principle, so arranged that the different sections are operated by a single pinion at the side. The section carrying lens and shutter moves first by turning the milled head, and when fully extended locks automatically into, and at the same time carries forward the sec-

CENTURY MODEL F.

ond section by means of a continuous rack. Each of the three sections is bound by metal to prevent any possibility of lost motion, and brass guides on top of the bed serve to insure strength and perfect rigidity—a feature which will appeal very strongly to all photographers. The platform is attached to the case by a brass piano hinge extending the full length of the bed, adding strength and beauty to the entire equipment. The prices of Century Cameras are extremely low considering the quality.

CENTURY MODEL GRAND.

PREMO AND POCO CAMERAS.

ROCHESTER OPTICAL AND CAMERA CO., ROCHESTER, N. Y.

Three entirely new lines are shown for this season. In the Cycle Poco, No. 5, is realized all the requirements of a medium draw, modern instrument at a moderate price. As in the more expensive apparatus, all wood parts are made of solid mahogany, dovetailed together; all metal work of highly polished and lacquered brass; the covering of black Morocco grain leather, with handle, and the bellows of red Russia leather, soft and flexible, showing a beautiful contrast in combination. The camera is fitted with reversible back, spring actuated ground glass, rising and falling front, rack and pinion, and combined view finder and level. A rapid rectilinear lens, with iris diaphragm, is fitted to the ever popular Unicum shutter. This combined with a handsome leather carrying case, makes a combination which at the price of \$11.00 for 4 x 5, and \$15.00 for 5 x 7 size, must be hard to beat.

CYCLE POCO NO. 5.

PONY PREMO NO. 6.

The Pony Premo, No. 6, inherits every good point it is possible to acquire for the production of perfect photographs. Well made and of the best materials, it is specially adapted for copying or work requiring the use of long focus lenses, an automatic double-acting rack and pinion, with double extension bed, being the latest acquisition. A unique swing back, adjusted at centers, which is optically correct, is conveniently operated by a clamp at the side. Pony Premos are listed with four distinct styles of lenses, at various prices, up to \$91.00 in the 4 x 5 size. They are made also in 5 x 7, 6½ x 8½ and 8 x 10.

Long Focus Premo.

We particularly desire to call attention to the Long Focus Premo, but must reserve detailed description for our next issue. Combined with every modern facility, the main feature is the length of draw, the focal length of the 4 x 5 being 26 inches; the 5 x 7, 34 inches; 6½ x 8½, 43 inches; 8 x 10, 55 inches. The handsome 1901 catalogue of this company has just reached our desk. Prospective purchasers of a camera will be well repaid by a careful study of its contents.

PORTABLE DARK ROOM.

PORTABLE DARK ROOM CO., WORCESTER, MASS.

A portable dark room is something that should appeal to all hand camera workers, and especially to tourists or holiday seekers. Such a contrivance, a model of neatness, is made by the Portable Dark Room Co., Worcester, Mass. We know of several enthusiastic amateurs who are using the portable dark room, and who say they would not part with it at any price if they could not get another. For changing plates or occasional developing at home or on tour, there is nothing could be more convenient, and as it should prove a money saver as well as a time saver, the price is within the reach of all. Dispensing with the dark room, with its close air and bad smelling lantern, it is a saving of health and eyesight. When folded it is only 2½ inches thick, is fitted with a leather handle, and is easily carried by any lady. It has a space in the bottom about one inch deep, the whole size of the cabinet, so that there is room enough, when folded, to carry two trays, a box of plates, box of paper, printing frame, bottle of developer or other such necessary articles.

REFLEX CAMERAS.

REFLEX CAMERA CO., YONKERS, N. Y.

This camera was submitted to us too late for due consideration of its superior advantages in this issue. We will revert to it in our next. Constructed especially for photographing objects in rapid motion, the full size picture is reflected and focussed upon a ground glass at the top up to the instant of exposure. By means of the focal plane shutter used, the best effect is secured on the plate.

SUCCESS CAMERAS.

CONLEY CAMERA CO., SPRING VALLEY, MINN.

The general excellence of workmanship in all makes of cameras being the result of competition during the last few years, the only points in which a manufacturer can now excel is in the minimum of bulk and maximum of facilities. This has been accomplished in the camera before us. Imagine a focusing, folding, 4 x 5 12-plate magazine camera that only measures 3 x 6 x 10½ inches, about half the bulk of a cycle camera and 12 plate holders. The magazine is at one

one side, and forms part of the camera. After focusing on the automatic ground glass provided, a convenient handle pulls a plate into position, and is so perfect in construction that the 12 plates can be easily changed and exposed in as many seconds. The Wollensak time and instantaneous shutter is used on a rising, falling and sliding front. Prices vary from \$15.00 to \$50.00, according to the grade of lens.

The same company also show an ingenious and perfect 12 plate magazine box camera, with bulb and finger release. The Bulb and tube folds into a compartment when not in use. Those desiring a box camera with the latest improvements should look into the merits of this one. A stereoscopic camera of peculiar merit is also made by this company. A study of their catalogue will repay those desiring a modern camera at a moderate price.

CUT SHOWING CAMERA BEING
FOCUSED.

GRAPHIC CAMERAS.

FOLMER & SCHWING MFG. CO., 404 BROADWAY, NEW YORK.

Those who have seen Mr. D. L. Elmendorf's views, telephoto and ordinary, will appreciate the improved construction in cameras which he suggested, and which is carried out in the accompanying illustrations of the Graphic, a product which is distinct in its several features elaborated by Mr. Folmer, and is designed and made to be of the most serviceable and durable character.

One of their most popular forms is a telescopic box hand camera to take the place of the folding type. The front holding the lens is in the form of a box, spring actuated in the rear, and is racked in and out to focus by a thumb screw at the top. Here is also a focusing scale and finder. The lens is fitted with a Graphic shutter, operated by bulb or finger release, and which can be set by a spring operated from the outside. A sliding door protects the lens when not in use; there are two finders and tripod sockets, the front is entirely removable, and there is space in the rear to hold three plate holders or a roll holder. The Telescopic Graphic is, without doubt, the most popular and practical model of its kind, listing at \$25.00 upwards, according to the degree of lens selected.

TELESCOPIC GRAPHIC.

Operating on the same plan is the Twin-Lens Telescopic Graphic, having the taking lens at the bottom and the focusing lens at the top, both exactly of the same plane and focus. The image from the upper lens is diverted by a mirror to a horizontal ground glass in the top, where it is seen through viewing tubes attached to the upper hinged cover. There is a rack and pinion focusing device at the bottom, permitting the use of lenses of long focus. The shutter is on the lower lens, and is operated by the usual bulb or finger release. Besides showing the object on the ground glass up to the instant of exposure, this substantial yet light and compact camera has more advantages than space will permit us to enumerate here.

Stereoscopic Telescopic Cameras, with double or triple lenses, operating on the same principle, are also made by this concern, and are marvels of ingenuity and efficacy.

The Cycle Graphic Senior

Is a very compact camera of the folding front type, the 5 x 7 size occupying no more space than others for 4 x 5 plates. It has a substantial bed plate, rising and lateral moving front, quickly adjustable, focusing scale, good reversible finder and spring fly out hood at the back to take the place of a focusing cloth.

A reversible back 5 x 7 Cycle Folding Graphic Camera, somewhat larger than the previous one described, is fitted with a telescopic bed, one riding above the other, and a long conical bellows, all very substantially made and adapted for the use of very long focus lenses or for telephoto work, and can be used for

enlarging and copying purposes. It is provided with a swing back movement on the rear and a fly focusing hood.

The Reversible Back Graphic Special

Is the highest grade of hand and view camera made by this firm. It is very complete in all points, from the fact that it is compact, has the two ends of the enclosing box hinged with long piano hinges, which drop and form platforms for extending the front or rear bellows, giving a combined draw of unusual length, as will be noticed in the illustration.

The front is supported on a metal base, which slides forward in the wood platform, operated by the front focusing rod. The rising front is operated by a milled shaft running across its entire width and engaging in a light milled rack on each side, and there is sufficient friction to retain the front in any desired position. Besides this, the base of the front has a lateral movement when desired, and is also pivoted in such a way that the lens may be turned at an angle, taking the place of the usual swing back in the rear. It is held in any position by a lever clamp and is quickly adjusted. Two horizontal flat spring bellows supporters depend about a half inch below the under-

REVERSIBLE BACK GRAPHIC SPECIAL.

side of the top of the camera box; on them slide rectangular wire loops, the lower ends of which are attached to the top of the bellows and prevent it from sagging. For interior work, when a wide angle lens is used, the front is pushed into the box and the front platform allowed to drop vertically, thereby avoiding any cutting off of the foreground.

The back frame slides in runways similar to the front, and can be clamped at any desired point, the fine focusing being done by a milled shaft observed on the side. The rear frame is mounted upon a bolster piece; a small pinion on the side regulates the vertical adjustment and locks it, while the side swing is regulated by the self locking worm screw. The front and rear platforms are built of diagonal panels of mahogany, well seasoned and tied in such a manner as to prevent warping. There are the usual finders, lenses, tripod plates and other little conveniences which go to make up a very perfect and complete instrument, adapted for various purposes.

VOCO SHUTTERS.

VOGT OPTICAL CO., ROCHESTER, N. Y.

This firm, although new to the trade, is composed of experts, as is well evidenced by the perfection of their products. Mr. Louis J. Vogt, inventor of the shutter we illustrate, was for fourteen years in the shutter and lens department of the largest concern of its kind in this country. The Voco shutter is the most complete and reliable double pump shutter we have seen, and most reasonable in price. If your lens is not already mounted in a shutter we cordially recommend the Voco. Heretofore the price of a good shutter has often exceeded that of the lens on which it was mounted. Voco shutters are very reasonable in price, considering the quality, as are all the products of the Vogt Optical Co.

BULLARD CAMERAS.

BULLARD CAMERA CO., SPRINGFIELD, MASS.

(E. & H. T. Anthony & Co., New York, Special Agents.)

This is the most extensive line of hand cameras manufactured by any one concern in this country, if not in the world, and contains a magnificent variety, from which the most fastidious may be supplied.

All the models are brimful of new and scientific features, radically departing from the conventional designs characterizing the photographic apparatus of the last few years. Every point that would facilitate the convenience of manipulation and the increase of capacity has been dealt with intelligently and effectively, and the result is a line of cameras most beautiful in design, exquisite in finish, rigid in construction and costly of material. In fact, it is a leader.

The Long Focus goods are magnificent, having double extension ways made entirely of metal, giving a rigid, compact and tasty appearance attained in no other construction.

All of the Reversible Back cameras are equipped with a newly patented automatic swing back.

The Double Swing Back Cycle is also constructed along new lines, whereby it becomes the model of its class. All of the Bullard cameras are made of mahogany throughout, from the cheapest to the best, while the cheapest cameras are cheap in price, but nowise in construction.

In addition to the full line of Cycles and Foldings, are introduced two lines of

Plate Magazine cameras entirely different in construction from the more or less uncertain magazine cameras heretofore on the market.

1st—The Regular Folding Magazine, with a capacity of 18 plates, that has given most excellent satisfaction from its absolutely reliable action, high-class lens, general capacity and appearance, during the last year.

2d—An entirely new style of 12-Plate Detachable Magazine Cycle cameras, constructed to meet a demand for a magazine camera of small compass, admitting of the use of a ground glass focusing screen, automatic swing back, etc. For years the public has been calling for such an arrangement, and this fully answers the call. It is also made in long focus style. Nothing in cameras could be more complete, scientific and elegant or more happily comply with the every want of the professional and amateur.

None but high-grade lenses are used on Bullard cameras, and may be relied upon, every lens being rigidly tested before cameras leave the factory. There are so many new models, each with distinguishing points meriting detailed description, that space will only permit us of describing three in this issue.

Bullard Fixed Focus Ground Glass Magazine Camera.

A fixed focus camera with a ground glass attachment, whereby the operator might see the size and position of his subject on a focusing screen has at last been constructed. It is here represented with the magazine section closed ready to make an exposure with either the bulb or finger release, the door in the rear showing the opening through which the plates are manipulated. This magazine section folds backwards and downwards, automatically raising the focusing screen from the bottom of the camera to the focal plane of the lens. It is a very handsome box, covered with black grain leather, contains a high-class single achromatic lens, pneumatic shutter, two finders, automatic swinging ground glass, 12-plate magazine, and is the most strikingly attractive and practical fixed focus camera ever invented, and cannot fail to win its full share of public applause. Price (Bullard Catalogue Number 17), \$10.

The Bullard Folding Magazine Cameras.

Have stood the test of one season, and it may be said without exaggeration that no plate magazine camera ever proved itself so reliable. It has sustained the representations of its manufacturers to the letter in the hands of thousands of users. Its mechanism is entirely different from that of the separable cycle magazine. The method of putting aside an exposed plate and placing a new one in position for exposure can be seen in the illustration hereon, where the camera is shown with magazine section extended. To grasp the handle on the rear end of the magazine and to pull out and push back this section, is an operation that can be accomplished with remarkable rapidity. Its action being smooth and easy, the changing plate carriers in rotating within the magazine offer no apparent resistance. A peculiar feature about the magazine that has attracted more than attention, is its fixed mechanism, the only movable being the counter and sliding case. The plate carriers do the moving, and their course is controlled by grooves or ways on the inside of the magazine chamber in which the projections or trunnions on the four corners of the carriers travel. The operation of this camera is very attractive. It is an ideal tourists' camera, having a capacity of 18 plates.

(To be continued in our next)

Society News.

Secretaries of camera clubs or photographic societies or associations are respectfully requested to send to Dr. John Nicol, Tioga Centre, N. Y., reports of meetings, copies of papers that have been read before the members, or anything of general interest that they would like to appear in the journal.

THE COLUMBIA PHOTOGRAPHIC SOCIETY OF PHILADELPHIA, PA.

On March 18 we had the pleasure of a visit to the abode of this flourishing society. It occupies a handsome four-story building at 1811 North Broad street, and from the ground floor up there is evidence of comfort and luxury in its furnishings. The membership is rapidly approaching the 200 limit, and Philadelphians who want to share in a good thing should make haste to inspect its advantages. Unlike some other societies there is perfect harmony among the membership. Dr. G. J. R. Miller is a model president, and no dissension is ever allowed to rankle. The building is fitted with excellent facilities for all kinds of photographic work, private lockers, developing booths, bromide enlarging room, and a "sky-light" studio and new portrait camera. There is also a billiard room, library, parlor and reception room, on the walls of which hang many beautiful specimens of the skill of the members. Membership is open to all gentlemen who prove socially acceptable. Entrance fee, \$5.00; dues, \$12.00 per year.

Mr. P. A. Mitchell, vice-president and chairman of the demonstration committee, always has some interesting features for Monday nights. On the night of our visit Mr. E. Wager Smith talked on exposure and demonstrated the Wager Exposure Scale, after which one of the members explained the working of the new studio camera.

On Monday, March 25, Professor Aikin gave an informal talk on the art side of photography, illustrating his remarks by references to pictures taken from the walls. He advised photographers to keep within legitimate limits. A good photograph was a work of art as truly as the work of the pencil and brush—only more accurate in its detail. Certain amateurs sacrifice its chief merit and prostitute the art by holding up as examples smudges that to look upon would cause a headache. He also derided the affectation of certain faddists, who, when they had made a good picture would paste it up in one corner of a mount many times too large. In the after discussion some uncomplimentary truths were said about the taste of the judges of the late Philadelphia Salon. One member said that he knew of one beautiful picture which was rejected, but the maker, nothing daunted, and knowing with whom he had to deal, turned his negative, printing through the glass on the roughest texture obtainable. This was accepted. Another member said he intended making an albumen print on burlap for next Salon, and when asked to explain said he would hang up a square of burlap, and from a distance throw at it two or three eggs. This, he said, would be an albumen print on burlap, which he would entitle "Sunset on the Atlantic."

The now perfected Ives Kromskop for taking and viewing pictures in natural colors, was lucidly demonstrated by Mr. Watch of the Ives Kromskop Co.

ORANGE, N. J., CAMERA CLUB.

Judging from the exhibition of prints which have graced the walls of the Camera Club of New York from March 13 to April 1, the Orange Camera Club is progressing

along the best lines. All through the fifty-five exhibits the technique was of a high order, a worthy object lesson to those who decry technical perfection and scorn rational methods in their vain attempts to simulate pure art. We congratulate the Orange Camera Club on the variety as well as the general excellence of their selection. Club exhibits, as a rule, have one or more weird, meaningless productions that detract from the general effect. It was with pleasure we noted their absence, as also that of affectation in the mounting and framing of the pictures. Space will not permit individual criticism. We could suggest better renderings of several of the subjects, and point to faults that are now no doubt equally clear to the makers, and will be avoided in their future work. Repeated trial of the same subject is more conducive to success than skipping from one theme to another. The work of Rev. Chas. Townsend deserves special mention, printed through bolting cloth, and delightfully soft and pleasing. W. H. Cheney submitted four pictures perfect in every detail, "An Old Vermonter" being especially bold and successful. E. S. Butterfield, D. S. Plumb, H. P. Powell Rees and T. O'Connor Sloan are equally successful in portraiture or landscape. "A Young Brood," by Ellis I. Appgar, ought to have been in better focus. His "February Thaw" was his best picture, and made one feel the fitness of the title, which could not be said of "A Day in June" or "A Frosty Morning." In portraiture, Arthur Hewitt is at his best. His four portraits were beyond criticism, while his single landscape, "Winter," showed that his best work is not to be done in that direction.

CHICAGO SOCIETY OF AMATEUR PHOTOGRAPHERS.

This society continues its work with unabated vigor, and if its meetings are not well attended it certainly is not the fault of the executive, who provides entertainments varied enough and numerous enough to please the most fastidious.

Since our last notice they have had the fourth smoker, at which members and friends were delighted with conjuring, music, sketch entertainment, etc.; an exhibition of the Orange Interchange slides; an illustrated lecture, "Two Weeks On An Ocean Freighter and Zigzagging Over Europe"; a demonstration of enlarging by one of the Eastman people; and all this in addition to the social intercourse that takes place in the rooms, in which members will always find some one ready to talk photography or anything else. We thank the secretary for his attention in sending us tickets for so many entertainments, and are only sorry that distance keeps us from attending them, as we should so much like to do.

AKRON CAMERA CLUB.

We have to thank the secretary of the Akron Camera Club for a copy of the catalogue of their late exhibition, which seems to have been a very decided success. Two hundred and five pictures by thirty-three exhibitors is a good showing for a local society, and if we may judge from the few reproductions in the catalogue, the exhibition as a whole must have been considerably above the average of such shows. But the secret is not far to seek, being found in the last sentence of the following brief notice of the exhibition which the secretary kindly wrote at our request:

The annual exhibition just held by the Akron Camera Club, February 25 to March 4, was without question the finest in the history of the Club, being the results of a year's thought in a few gems, gleaned and garnered from the fields of a thousand efforts, travels and disappointments, and the Club takes pride and encouragement

because of the marked progress during the year, showing solid knowledge towards true art work with the camera.

For art in photography, for sumptuous mounting and for variety, the exhibit was undoubtedly equal to any in the United States this year, aside, perhaps, from the Salons.

Much interest was shown and expressions of surprise and pleasure at the excellence and variety of pictures on view were heard from all.

A number of members of the Club have won honors in recent exhibitions at Pittsburg, Philadelphia, Chicago, San Francisco, Wilkesbarre and many other places. The work of the Club is rapidly improving in quality and is becoming known all over the country.

In addition to their own work, the Club secured representative pictures from abroad, by the leaders in the field of picture photography, who believe that the camera is the means to an end, and can be made to do the bidding of trained and intelligent minds.

It has been uphill work to get photography recognized as an art, and it was left for the amateur to do this. And right here is a place to correct the popular error of the conception of the amateur photographer. "The lover of the sport," not the snap shot "fiend" who fires at everything in sight, regardless of condition, circumstance or surrounding.

THE CAMERA CLUB OF NEW YORK.

The regular monthly meeting occurred on the evening of March 12, presided over by President Murphy. In the course of the meeting the matter of *Camera Notes* was discussed at some length, which brought out the fact that a special agreement had been entered into between the Board and Mr. Stieglitz, by which he should be editor for Volume IV., and the Club should appropriate two dollars a member for each copy of the publication distributed. Other minor details in regard to articles, illustrations and exhibition reviews were also provided for.

Following this, Mr. Arthur Hewitt, of the Orange, N. J., Camera Club, was introduced, and read a paper on "Pictorial Photography" and matters coincident thereto, emphasizing numerous points in a peculiarly emphatic and erratic style. He began with the assertion that he should say exactly what he thought. The principal points were Portraiture, Photographic Salons and Juries, and the Universality of Art. We should strive to make a portrait have aerial effect to bring it out in sort of rotundity. When it is blurred there is the effect of life and spirit.

Concerning Salons, he alluded to the lengthy review made by Mr. Kieley of the Philadelphia Salon, and questioned the propriety of his being a judge and critic combined. He had sent exhibits there, but they were all turned down. He considered they all took too narrow a view of what should and should not be admitted, that they confined themselves to one style of photograph as standard and threw out all others, seemed to judge one way altogether. He contended there was a combine among the members of the jury, and quoted extensively from the writings of Mr. Kieley in *Photograms* for 1900 to prove it. Thought it was a wrong idea to limit a Salon to one style of picture, basing his argument on the fact that at exhibitions of paintings, where forty men are on the jury, several varied styles or schools of painting are admitted. He criticised severely the placing in one man's hands the selection of American examples of photographic art pictures for the Glasgow Exhibition, and argued that he should send pictures year after year to the salons, believing that dif-

ferent schools were entitled to recognition, and that in the end the present narrow sphere of judging would be broadened.

He spoke of Mr. Stieglitz as being "our king in pictorial photography," and of Mr. Kieley as being too narrow in his ideas of Salons and American art photography. But the best of good feeling prevailed, and at the conclusion of his remarks Mr. Kieley proposed a vote of thanks to Mr. Hewitt, which was unanimously passed. It is a long time since the club has had such caustic and amusing entertainment as this discourse by Mr. Hewitt.

During the balance of the month Wednesday evening weekly lantern slide test nights have been held, and the custom begun of members describing the pictures on the screen, while Mr. Champney, when present, gives advice as to how some may be improved by changing the matting. An earnest effort is being made by the lantern slide committee to get together a good collection for next year's Interchange.

The annual meeting of the Club occurred on April 9. The following ticket was elected: President, John Aspinwall; vice-president, J. Edgar Bull; treasurer, William E. Wilmerding; secretary, Daniel J. Dowdney, and members of the board of trustees as follows: Henry H. Man, Harry B. Reid, for three years; Dr. Robert J. Devlin, for two years; Robert L. Bracklow, for one year.

Answers to Correspondents.

Correspondents are requested to notice that communications intended for the editors should be addressed to Dr. John Nicol, Tioga Centre, N. Y.

S. K. BURTON.—We do not see the inconsistency in saying that the limits of the hand camera are such that 99 per cent. of all the exposures that are made with it are simply wasters, and that our Bullard is our companion wherever we go. The Bullard covers the plate as perfectly as any pictorial photographer can wish at $f/8$, but there is a great difference between using it in the hand and on the stand; and for once that we use it in the former we use it on the latter a hundred times.

C. F. MURRAY.—It is easier to say that a photographer *may* stamp his individuality on his work by development, than to say *how* he may do it. But it can be done. A suitably exposed plate may be developed for contrast and breadth, or for delicate detail and softness, and even by straight development the results on plates that have had the same exposures but developed by different photographers will differ materially, the individuality of each coming out unmistakably. Then, there is local influence, the holding back of certain parts and the pushing on of others, all tending to produce such results as may be desired by those who know what they want and how to get it. Of course there is a mechanical development, such as the Watkins method, and it is of very great use under certain conditions, but picture makers do not have recourse to it when they are trying for pictures.

RALPH BRYDON.—When the sky line is very irregular we employ the masks in printing in clouds, but when it is fairly straight we invariably employ the "cloth." Place the cloud negative and the printed landscape in the frame, which should be placed at a suitable angle to the light, and cover the printed part with a soft black cloth, an old silk handkerchief answers admirably, gathered into an irregular bunch so as to roughly follow the outline. A single trial will show you how simple and successful this method is.

G. J. PLATT.—There is no "best lens," although for some purposes some are better than others. For landscapes the most important feature of a lens is its focal length, which for your 10 x 8 should not be less than fifteen inches. If money is no object and you have pleasure in the possession of beauty and perfection, you should get one or other of the convertible anastigmats; if it is, and you want to do fairly rapid work, get a fifteen-inch of some of the rectilinear family; but if you wish to be economical and are content to give time exposures, you may do as good work with a single lens costing less than \$10.

ARLINGTON PEARL LITTLE.—Your difficulty in making good copies from drawings, printed matter, etc., arises from various causes. Your method of lighting, to a large extent side light, is at fault. The grain of most paper is a series of hills and dales, the latter, when lighted from the side, being more or less in shadow and giving grays instead of opaques in the negative. The light should be direct in front, or perhaps still better, equally intense on both sides. Then, rapid plates are much more difficult to give density without fogging what should be clear glass, than a slow plate, such as Carbutt's "15." With such plates so lighted, it is simply a matter of exposure, and can only be ascertained by a series of experiments. Nothing is better than your "metol-hydro" developer.

W. C. LAWRENCE.—We are aware that there are rapid printing "blue print" solutions, but so far, those that make them have kept the formula a secret; at least we have never come across one that was more than of average rapidity. Some have recommended a trace of acid oxalic, and others a little gum arabic, but we have not found benefit from either. As an inducement to some of our experimenting readers we offer a prize of ten dollars for a formula that will give a blue paper with the ordinary keeping qualities and will print as rapidly as ordinary "P. O. P.," say, as solio albuma or disco.

W. H. FOSTER.—Just what you mean by "can I take views for the stereoscope with a 5 x 7 plate and a duplicate without moving the camera?" we are at a loss to understand. Presuming, however, that you want to make 5 x 7 prints to be seen in the original reflecting stereoscope, we would say that it is necessary to move the camera, preferably from right to left, between the exposures. Theoretically, the camera should be moved only about three and a half inches, but a greater distance will give a greater appearance of solidity. A few experiments will show the best distance. The camera must be kept perfectly level and the motion must be strictly parallel. The most convenient way is to have a board screwed to the tripod head about twice the breadth of the camera, and with a lath at the front or back against which to press the camera while moving it. The getting of black tones on solio depends more on the negative and on the depth of printing than on any particular toning solution. Only a strong negative deeply printed will give them. Sepia is a slightly yellowish brown color, easily got on some papers, the phosphate for example, without toning.

W. GRAHAM.—The spectacle lens employed in photography is the ordinary spectacle lens to be had from any dealer in optical goods, but in the rough, that is round, not cut to the usual oval, and it need not be ground at the edges, just chipped as they come from the maker. To find the length focus the sun to a point, as if you were using it as a burning glass, and the distance between the lens and the bright point or small disc is the focal length.

No. 1224.

"IN THE MEADOW."

By F. P. Streeper.

THE
AMERICAN AMATEUR PHOTOGRAPHER.

VOL. XIII.

MAY, 1901.

NO. 5.

Success With Hand Camera.

BY J. P. CHALMERS.

WHILE the camera review in this and the preceding number of the AMERICAN AMATEUR PHOTOGRAPHER, under the title of "Hand Cameras of 1901," is not to be taken as an endorsement of what is generally known as the "hand camera" over the tripod pattern, a few additional remarks on the limitations and possibilities of the former may not be out of place here. The present popularity of this form of camera,

No. 1221.

By Benj Lindstrom

together with the general excellence of the great variety of models, makes it hard to decide whether the demand has created the supply, or the supply the demand; at all events, taking both into consideration, they seem to form sufficient justification for the space devoted thereto.

The hand camera has its limitations—so has the tripod camera. Each in its own field, skillfully handled, is the most facile and perfect tool ever employed in the graphic art. Wise men tell us that nothing worthy the name of a picture can be made with a hand camera; that a picture to be successful must be seen and composed and studied in its full size upon the ground-glass. This might have been so, but we live in an age of ad-

vancement. A certain time-worn proverb now reads: "Whatever is worth doing well must be done quickly." In support of the ground glass theory we have the Reflex camera and the twin-lens patterns; but they are also hand cameras, both portable models, capable of the best work under the most adverse conditions. Then, again, almost all of the popular hand cameras now have tripod sockets and ground glass focusing screen, while many of them are of longer focal capacity than tripod cameras four times their size. Random, reckless snapshotting is responsible for whatever odium is attached to the hand camera. This was to be expected when low cost and simplicity in manipulation placed these instruments within the reach of people who had neither education, sense of propriety or modesty. At the same time, in the right hands, they have produced work which has received the highest commendation.

No. 1137.

By S. B. Challinor.

"HIS FIRST CIGAR."

To the tourist the hand camera is a boon. Pictures of the Matterhorn, the Forum at Rome, cathedrals and all the principal buildings in foreign cities, the glories of the Yellowstone Park, or of Niagara Falls, all these he can purchase cheaper and perhaps better than he can make them. These the wise traveller will refrain from making, however great the temptation. It is not views of this description, however clear, distinct and perfect in detail, that will prove the most pleasant mementoes of a tour, or of the most interest to our friends. It is not the "f-64" work, showing a limitless stretch of landscape that brings most applause to a lecturer when thrown upon the screen. It is his "snap-shots" of real life—perhaps a tramp asleep by the wayside, a group of fisher folk, gamins disporting themselves in the park fountain, or an importunate beggar. They may not be his best pictures, they may not even be in proper focus, but they are touches of nature as he saw it, and they are the things remembered.

A trained eye, a quick perception and a steady hand is necessary to success in hand camera work. Of all the truly successful pictures made in this way, it was the scene as it appeared to the eye that was studied instead of the image on the finder or focusing screen. Experience, study, and careful comparison of results will in time enable one to foresee the relation of the photographic image to the natural view. This presupposes thorough familiarity with the instrument and the capacities of the lens. If every line, every tone and gradation of tone is then carefully considered and acted upon, the ground glass would be no more necessary to the picture maker than a pair of compasses in the hands of the painter.

That this is the hand camera era cannot be doubted when one manufacturing concern alone brings out a catalogue with some 30 different models. The handy tool has outlived all criticism—and profited thereby. To-day we see its work at the principal exhibitions by men in the front rank of artistic photography. "Its work," did we say? No, it is *their* work; for after all the camera is but a delusion and a snare to the unsophisticated, however perfect. Success in picture making is not to be attained by perfection in apparatus; but the spirit, seriousness in selection, and careful precision of the "man behind the gun." To those who are able to see the end from the beginning, and use it as a means of expressing their mental perceptions, the hand camera should be an inseparable and valued companion.

Selection is more important in pictorial photography than technical perfection, and the feeling displayed in the treatment or handling of the subject of more importance than the after treatment of plates or paper

No. 1199.

By S. B. Challinor.

"AFTER HIS FIRST CIGAR."

A Photographic Sketch-Book.

BY H. M'BEAN JOHNSTONE.

I WONDER what the objection is to the hand camera, anyhow? That there is an objection none can doubt, and if you do, by any mischance, feel inclined to doubt it, all that is necessary for you to do, is to take a walk down some of the principal avenues of New York City and carefully size up every find that you can see with a hand instrument. Note, will you, the shamefaced way in which he carries the little unoffending black box and how self-conscious he appears when he is making ready to press the button. True, there are some amateurs who do not look so sheepish, but they are only the hardened wretches who are lost beyond reclaim. Now what can be the reason of all these slinky looks and whence arises the bad odor that attaches itself to the poor, innocent little hand-box.

By W. C. Allison.
"YOUNG AMERICA."

Perhaps it is possible that we might hit on the solution of the problem if we were to recall a certain little episode that occurred at the wedding of Paul Leicester Ford, the novelist, when that estimable and amiable gentleman jumped on a poor snap-shotter with both feet and completely put him out of business. Now right here is the reason that so many people object to the hand camera. Were it not for this I do not think that anyone would be able to say a word against it. But on the other hand, it might be said that such people as Paul who have made themselves public characters, ought to remember that the public takes an interest in them and conduct themselves accordingly.

But there is another use for the hand-camera that no one can possibly find any objection to, and it is the purpose of this little article to tell you about it. Did you ever happen to make the acquaintance of a painter or even one who considered himself as such? You have, of course. And did you not find that in his search for the pictorial he was constantly making a study of old Mother Nature under her ever-varying aspects by means of a sketch book and pencil? Of course. Well, why didn't you take the hint and go and do likewise. Surely if he could do it and derive a benefit from it, you could also. What's that you tell me? You can't

"A WINTER MORNING."
BY
FRANK E. BRONSON

No. 1220.

No. 1206.

"IN TROUBLE."

By P. H. Clark.

sketch. O dear, O dear, there's that same old argument that every amateur who has not the advantages of an art education brings up, without ever thinking that in the hand camera he will find a tool which will effectually remove that stumbling block from his pathway. The point that I wish to impress upon you is that in the hand camera you will find a servant that will prove to you of the same benefit as the pad and pencil to the artist.

Very often, during the balmy days of the glorious spring that is now upon us, we are going to want to take long rambles through the country in our search for the picturesque, where to be bothered with the task of carrying a heavy field camera might be inclined to deter us from making the expedition. A fellow never can tell when he is going to run across a pretty spot that will prove worthy of a photographic dry plate, and still when he thinks of lugging that big camera around——. Well, its pretty nearly enough to discourage anyone. But on the other hand, "What sights you do see when you ain't got a gun," and you certainly can't go out without it. How easily the problem is solved when the idea of carrying a hand-camera occurs to us.

Then we are able to roam through the trackless forest, along the pretty streams, down in the verdant valleys, on the hill tops among the clouds, or where we will, and still to be ready to study any phase of Na-

ture that may present to us. And how many different phases will we find. Emerson says, "To the attentive eye each moment of the year has its own beauties, and in the field it beholds every hour, a picture that was never seen before and never will be seen again." Just think of it, could any fancy be more beautiful? And yet could you find any more emphatic method of impressing upon your readers what an endless variety of exquisite pictures Mother Nature is constantly presenting to us. In the course of these rambles we so often run across fleeting subjects that the hand-camera is alone quick enough to throw into position and secure subjects, which, if they prove worth it, can afterward be enlarged to any size that we may desire, in order that their effectiveness may be increased. Or how the hand-camera will enable us, at almost no expense, to get half a dozen different studies of a scene from opposite points of view and under varying lightings, so that we may take them home, and, by studying them at our leisure, finally decide which one is to be worthy of a large plate and what lighting we need to employ.

In the pursuit of landscape photography, one of the most important elements in the attainment of success is the ability to look at a stretch of country and to decide just how

No. 1204.

By C. H. Parker.

"HIS FIRST PANTS."

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indefinitely.

No. 1103.

"THE WIND action of the light penetrate through
See portot "print through." After exposing.

in the picture. To those who are naturally gifted with good taste, this is nothing like the task that it is to the poor benighted individual who is not so blest. Unfortunately we are *not* all so endowed, and as a consequence the study of the laws of good composition becomes a matter of necessity if our aim is to produce perfect pictures. But even those to whom the laws of good taste seem to be a second nature will do well to bear in mind the fact that in landscape photography it is not a mere record of facts that we are looking for, but rather the most artistic portrayal of the scene that it is possible to obtain. Every day we are shown photographs of spots that possess absolutely no interest whatever beyond a merely local point of view, and even so, in nine cases out of ten, it would be possible to secure just as faithful a delineation of the spot and much more artistically rendered. Surely a careful advance study of the place by means of hand-camera photographs would be of assistance in such a position, and would result in a more capable handling of the subject. In our trips up and down the country, where the hand camera is used in this capacity of sketch book, its value is intensified all out of the usual proportion, and the

No. 1206.

"IN TR

sketch. O dear, O dear, there's the amateur who has not the advantages of ever thinking that in the hand camera actually remove that stumbling block. I wish to impress upon you is that in a servant that will prove to you of the same artist.

Very often, during the balmy days upon us, we are going to want to take in our search for the picturesque, when carrying a heavy field camera might be the expedition. A fellow never can find a pretty spot that will prove worthy of when he thinks of lugging that big camera nearly enough to discourage anyone. You do see when you ain't got a gun, you out it. How easily the problem is solved when a hand-camera occurs to us.

Then we are able to roam through pretty streams, down in the verdant clouds, or where we will, and still to

labor of selecting a suitable spot on which to place the instrument simplified by half.

And then we must keep a note book record, so to speak, of the different parts of the country and at any time when we may want to gauge the possibilities of any particular portion of the district, all that will be necessary for us to do is to turn to it, and when we may desire to know anything about any spot that by reason of some news item takes on a sudden significance, all that will be necessary will be to turn it up and very likely we may find that we have a complete record of the place. Here again the hand-camera is the servant that we are to employ.

The earnest photographic student of Nature, whether at her best or at her worst, if he

aspires to present to the public the truest and at the same time the most artistic representation of her that it is possible to secure, will find that in the hand-camera he has a tool that will not only act for him in the same capacity as the sketch book of the painter, and assist him to get the very best, but will in so assisting him also show him how to do it at a considerably smaller cost than heretofore, inasmuch as he will no longer be under the necessity of firing off his large plates until he has the picture before him, a fact which, considering the prices of the larger sizes of plates, is no unimportant consideration

Gum Ozotype.

OZOTYPE, invented by Thomas Manly in 1898, and an account

No. 1204.

By C. H. Parker

"HIS FIRST PANTS."

of which will be found in our June number of the following year, has been considerably improved by his brother, Robert Manly, and the improvement is described in the number of *The Amateur Photographer* for March 22. The improvement seems to be a happy combination of the gum-bichromate and the ozotype, and has given us results that are very promising.

The paper is prepared and printed exactly as in ozotype, but instead of using the carbon tissue or the "Plaster" sold by the ozotype company, the washed and dried print is brushed over with a pigmented and chrome alumed solution of gum; and this may be done as soon as the print is dry, or at any time for months afterwards.

A suitable sized paper is coated by brushing, or otherwise, with the patented solution, or with the sensitising solution on pages 244 of the number of our magazine already mentioned, dried in the dark and printed. Such paper is about as sensitive as platinum, and the image is as visible, or perhaps a little more so; and when washed till all the soluble salts are removed, and dried, the prints will keep indefinitely.

Mr. Manly says:

Print deeply, but do not let the action of the light penetrate through the high lights; in other words, do not "print through." After exposing,

place the prints in a dish of *cold* water for not longer than ten minutes. The water should be agitated by letting the tap run gently into the dish, and change once or twice. The prints can then be dried by placing them face upwards on blotting-paper, or they may be hung up either on a line by pegs, or on shelves by dark-room pins. The duration of exposure is about the same as in platinotype printing, if not quicker. With a dozen frames, it is no exaggeration to say that from fifty to one hundred prints can be taken on a fine, bright day, and these can all be stored up for pigmenting at any convenient time, light having ceased to affect them after ten minutes' washing mentioned above.

The required stock of prints having been prepared, the process of pigmenting is carried out as follows. Make up stock solutions:

A.—Water	5 oz.
Sulphate of copper (pure)	1 oz.
B.—Water	5 oz.
Chrome alum	$\frac{1}{2}$ oz.

These two solutions will keep good indefinitely, and may be put away on the shelf for use at any future time.

GUM SOLUTION.

C.—2 oz. of gum arabic to 5 oz. of water.

To each ounce of this gum solution add 1 dram of A (sulphate of copper solution, as above), 10 to 50 minims of B (chrome alum solution, as above), according to the degree of insolubility required, and sufficient pigment to suit the taste of the operator.

N. B.—Some workers may consider this solution too thick; if so, cold water may be added to produce the required consistency.

If kept any considerable time, this solution (gum and pigment) may probably become by degrees too insoluble, but I have not had time to verify this statement.

ACETIC SOLUTION.

D.—Water	1 oz.
Acetic acid (glacial)	30 minims.
Hydroquinone	15 gr
Ferrous Sulphate	5 gr.

It is best to buy the ferrous sulphate pure and in the granulated form. Crystals are rather difficult to weigh out and dissolve.

Owing to the presence of hydroquinone and ferrous sulphate this solution will not keep more than a few days, but as the quantities are so small the preparation of a fresh solution after about three days will not entail much trouble or expense. If the solution turns brown in a day or two it is not necessarily spoilt.

To 1 ounce of C (gum solution) add 50 minims of D (acetic solution), and mix well with a brush. Smear the ozotype print and soften with a badger-hair brush in the same way as in the gum-bichromate process.

Hang up to dry or place the print face upwards on a piece of blotting-paper for that purpose.

When dry, develop in cold or hot water, according to the state of insolubility of the gum.

"WHERE'S THAT NICKEL?"
BY
W. E. COGSWELL.

No. 1198.

On the Composition of the Primary Image in Ozotype.

BY A. HADDON.

ABOUT eighteen months ago Mr. Manly read a paper before the Royal Photographic Society on the Ozotype process, and gave it as his opinion that the primary image formed on the sensitive paper by the action of light consisted of manganese binoxide, and more recently at the L. and P., he said that it might be manganic acid. At the time when the process was first described, I could not see how it was possible for such a body as manganese binoxide to be formed under the circumstances, and resolved as soon as possible to test experimentally the truth or otherwise of the statement. The paper, it will be remembered, is sensitized by being coated

No. 1223 By W. M. Murray.

with a mixture of potassium bichromate and manganese sulphate. Under the action of light the chromic acid is supposed to transfer some of its oxygen as ozone (hence the name) to the manganese oxide, and to convert it into the binoxide. When manganous sulphate and potassium bichromate are mixed in solution no precipitate is formed, but if neutral potassium chromate is added to manganous sulphate a precipitate of basic manganous chromate is produced after a short time.

(1.) If paper with such an image on it is washed for a long time the image disappears, due to its being feebly soluble in water. Let us treat in a similar manner a piece of paper containing in its pores manganese binoxide, and note the result of long washing. Such paper can be easily prepared by soaking, say, blotting paper in a strong solution of potassium permanganate, and then without washing transferring it to a solution of sodium sulphite. The sulphite will become oxidized to sulphate, and at the same time the permanganic acid becomes reduced to hydrated manganese binoxide. If now such paper be washed in running water for many hours no difference in time will be observed between it and a piece of the same paper which has been washed only just long enough to remove all soluble salts, thus showing that water acts very differently on the compound of which the primary image is composed in the Ozotype process and on manganese binoxide.

(2.) The second operation of the Ozotype process depends on the decomposition of the material of which the image is formed by means of dilute acetic acid. Now, if a small quantity of hydrated manganese binoxide be prepared in a test tube, or other vessel, in the same way as above described, *i. e.*, mixing solutions of sodium sulphite and potassium permanganate, washing the precipitate by decantation, and then treating with dilute acetic acid, no solution of the binoxide takes place, and I failed to dissolve any by boiling or by treating with glacial acetic acid and raising to the boiling point. Thus we see that manganese binoxide behaves very differently from what the substance forming the image does, both with regard to cold water and acetic acid. From these two experiments only it might be inferred that the body of which the image is composed is not manganese binoxide, but some other body.

(3.) A large sheet of paper was brushed over with a mixture of potassium bichromate and manganous sulphate; when dry it was exposed to light for about an hour; at the end of that time it was washed in running water for some hours. The paper was then torn into small pieces, introduced into a flask and treated with dilute nitric acid, the yellowish solution filtered and just neutralized with ammonia; on the addition of lead acetate yellow lead chromate was formed, showing that a chromate existed in the paper after washing. No potassium bichromate could have remained in the paper after the long washing, and therefore one must conclude that the chromic acid came from insoluble chromates produced by the action of light on the mixture of potassium bichromate and manganous sulphate. If glass be coated with the sensitizing solution, scarcely any change takes place, even after long exposure to light. By exposing the mixed salts to the action of light, *in the presence of organic matter*, chromic acid is reduced to the state of sesquioxide; this change gradually diminishes the excess of acid and brings it to the neutral condition. As soon as this occurs, we have the same salt formed as I mentioned above, when neutral potassium chromate is mixed with manganous sulphate. The image, I therefore conclude, consists of manganous chromate, and not manganese binoxide; it may be that a cer-

tain amount of chromium chromate is formed at the same time.

(4.) If we take a piece of Ozotype paper and print it under a negative or simply expose it to light and wash it as long as is necessary to remove all soluble salts, and then soak it in two or three changes of distilled water, so as to remove the soluble chlorides, and then brush over the surface a dilute solution of silver nitrate acidulated with acetic acid, a red image is formed. The acetic acid decomposes the chromate, and sets free chromic acid, and this combines with the silver, forming red silver chromate. This again proves the existence of a

No. 1202.

By M. L. Hanaford.

YOU CAN'T GUESS HOW OLD I AM."

chromate in the paper, and if it were due to soluble chromates left in the paper the high lights, as well as the shadows, would be colored red, but instead of that we find that the red silver chromate is confined to the shadows and half-tones only. There is, to my mind, no necessity to prove the presence of manganese, as the color of the image is sufficient to show its existence in the image.

(5.) It is possible to obtain practically the same results as Mr. Manly has produced by omitting the manganese sulphate and using either plain potassium bichromate, or potassium bichromate and mercury bichloride. When paper has been sensitized with either of these solutions, printed, washed and treated as in the second operation of the Ozotype process, the same kind of image results. The presence of manganese, mercury, or copper salts only increases, to a certain extent, the quantity of insoluble chromates, and therefore the amount of chromic acid set free by the acetic acid. There is undoubtedly a certain amount of manganese chromate and mercury chromate produced when these salts are present, as the color of the primary image is different from that which is observed when plain potassium bichromate is used. With mercury bichloride the color of the image is darker and redder than when plain bichromate is employed, because mercury chromate is a reddish salt.

(6.) If plain potassium bichromate is applied to paper, then exposed to light, and afterwards washed, on applying a dilute solution of silver nitrate acidified with acetic acid, silver chromate is formed. If, however, the paper is washed for several hours, no change in color is obtained on the application of the above solution, but there is still left in the paper a substance which produces a coloration of the paper. This shows, I think, that either chromium chromate and chromium sesquioxide are both produced by the action of light, and that the chromium chromate is dissolved, leaving the sesquioxide, or that the action of water is to decompose the chromate and leave insoluble chromium sesquioxide.

(7.) If it be granted that the image consists of insoluble chromates, or even a single chromate, it is easy to understand how the carbon image is produced from it. Carbon tissue, it will be remembered, is soaked in a dilute solution of acetic acid and hydroquinone, and then squeegeed to the primary image. The acetic acid gradually sets free chromic acid; this oxidizes the hydroquinone, and the compound thus formed combines with the gelatine and renders it insoluble in warm water. It is well known to carbon printers that paper sensitized with acid potassium bichromate soon becomes insoluble, and in order to avoid this drawback, the sensitizing solution is generally made neutral or alkaline by the addition of ammonia. It therefore occurred to me that one ought to be able to obtain an image without the addition of hydroquinone to Mr.

No. 1141.

By Arthur S. Haig.

"THE SILVER LINING."

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"BECALMED."
BY
C. R. PANCOAST.

No. 1207.

Manly's acetic solution. To test this I used a much stronger solution of acetic acid than Mr. Manly recommends, viz., seventy minims of acetic acid to four ounces of water. After the tissue had been soaked for such a time as to saturate it with the weak acid, it was transferred to a primary image and allowed to dry. The two were left in contact for about fifteen hours, the papers were then soaked in cold water for about twenty minutes and finally transferred to water at 105° F. The result was an image identically the same as in the previous cases, when hydroquinone was employed. If the paper had been imperfectly washed after removal from the printing frame, chromic acid would have been set free, not only in the shadows, but also in the high lights, and the result would have been veiled, but clear high lights were obtained, showing that the chromic acid was obtained from the printed portions only.

Although I disagree with Mr. Manly as regards the composition of the primary image, yet I cannot conclude this description of the experiments I have made on Ozotype printing without complimenting him on having brought to a successful issue a process which involves some very interesting and complicated chemical reactions.—*Photography*.

Notes.

BACKING FOR PLATES.—*The Photographic News* gives the following as a good backing, although almost any coloring matter soluble in alcohol will do as well as those prescribed:

White soap (in powder).....	15 g.
Absolute alcohol.....	300 c. c.
Erythrosine	3.5 g.
Aurine	3.5 g.

Allow the mixture to stand in a warm place for eight days. The solution is to be applied with a brush, and it immediately dries, and can be readily removed with a damp cloth.

INDEPENDENT JOURNALISM.—What is the matter with the editor of *The Photographic Times*? This is the question that he asks regarding "the boasted independence of some of our contemporaries"; and adds that "the majority of them are now controlled by a trust, which dictates to them what firms shall be allowed to advertise in their pages." Our contemporaries may speak for themselves, but it most certainly does not apply to us, we are ever ready to take all honest advertisements that are offered, and to do equal justice to all.

COPYING PRINTS BY PHOSPHORESCENCE.—F. Jervis Smith, in *Nature*, tells how prints in books in a library into which neither artificial light nor camera will be admitted, nor the books allowed to be removed, may be

copied by phosphorescence. He coats a sheet of cardboard, glass, or metal—a piece of ferrotype plate will answer admirably—with “Balmain’s Paint,” places it, after illumination, behind the engraving and the dry plate or sensitive film in front, and shuts up the book. After from twenty to sixty minutes, depending on the thickness of the paper and the speed of the plate, development may be conducted in the ordinary way and a fairly good negative be obtained.

For this method it will be evident that only such prints as are without printing on the back are available; but *The Amateur Photographer* suggests “Playertype” for such as have reading matter on the opposite side. This consists in laying a piece of developing paper on the face of the print, covering that with the illuminated cardboard, and shutting them up for the necessary time.

IMPROVING THE NEGATIVE.—We have always maintained that working on the negative or the print, so long as the results were not patent to the ordinary observer, was legitimate and fully within the province of the picture maker by photography. Of the many ways by which the negative may be improved the following, given by L. G. Bigelow in the *Professional Photographer*, will be found one of the best. We may say, however, that we prefer to use *papier mineral* instead of the varnish recommended.

Retouching on the back or glass side of a negative to harmonize the lighting is fully appreciated by a few only. For a surface use plain collodion, 6 oz.; Hammer’s retouching varnish, 2 oz. Mix and filter. If more tooth is wanted, dissolve 10 grains of gum mastic in 1 oz. of sulphuric ether, and add 4 drops at a time until it suits. Flow the glass side of the negative and let dry. Use a “B” or “H B” pencil with the point not too fine, and do the work by what is designated as “hatching,” viz., parallel lines slanted at an angle of 45 degrees and close together. When the parts to be modified are covered, turn the negative half around and repeat the lines across, and at right angles to those first drawn. This will make a net work of diamond shaped dots through which the light passes to the negative diffused, and preserving all the modeling of the negative, yet printing lighter. Few negatives are so perfect but that this method will improve them. It is accomplished so quickly and the results so satisfactory, that no one can afford to ignore the aid afforded to the production of superior work.

MAGNALIUM.—Thirty-five years ago Wohler experimented with an alloy of aluminum and magnesium, but from a chemical rather than a metallurgical point of view, mixing them in something like their equivalent weights, and getting a metal so brittle that it could not be wrought by

tools, and that could not resist the action of the atmosphere. More recently, Dr. Ludwig Mach, taking the cue from brass and bronze, in which a very little of one metal changes vastly the nature and properties of a large quantity of another. He mixed 100 parts of aluminum with from ten to thirty pounds of magnesium, and produced an alloy that apparently possesses all the best features of brass or bronze without any of their objectionable qualities. It is less than a third the weight of brass, its specific weight being from 2.3 to 2.5. It can be wrought in every way as easily as brass, even to the soldering; is of a pure white, can take a high polish, and a good black. Magnalium seems to be an ideal metal for all optical instruments, and especially for lens mounts; and as the source of both its constituents is practically inexhaustable and its reduction now comparatively simple, it should not be, weight for weight, more costly than brass. It is being put on the market by the Magnalium Co., of Berlin, and it should not be long before it is either produced or imported in large quantity in this country.

ACCORDING to *The British Journal of Photography* there are in London, taking a seven or eight mile radius, some three hundred professional photographers, and in the rest of Great Britain and Ireland about four thousand.

WE are requested to intimate that Mr. Felix Raymer has resigned his position as manager of the Guerin College of Photography in St. Louis, and returned to his former position in the Illinois College of Photography in Effingham, Ill.

THE fact that the principal manufacturers of sensitized paper have organized under one management for their own protection and to the general public welfare, seems to induce rather than deter the formation of smaller concerns. We continually hear of new companies, each claiming superior advantages for their wares, which they are anxious for the dear public to try—at so much per try. Considering the standard values of the commodities which enter into the manufacture of a good sensitized paper, we fail to see the inducement for the investment of capital at the prices which obtain. Exalted ideas prevail as to the margin of profit. Exclusive of the cost of the raw material, a high-class paper can only be produced by skilled labor, and under very exacting conditions, while the cost may be said to have only begun when the product comes to be marketed. Notwithstanding this, and the incidental waste and losses, they come and flourish. It certainly speaks well for the growth and scope of photography. As harbingers of future prosperity in the photographic field we wish each one his merit of success.

The Joly-McDonough Three-Color Method.

ALTHOUGH we noticed this method of three-color photography when first introduced by Joly, in Ireland, and later, when McDonough, of Chicago, laid claim to it, we had little faith in its ever being turned to a practical account and abstained from pressing it on the attention of our readers, as is our habit with things in whose future we have confidence. We were the more shy of assisting in its exploitation from the fact that those who were, after the death of McDonough, attempting its popularization or introduction, seemed unwilling to show us specimens, although they were getting the Chicago papers to print glowing accounts of certain lantern slide exhibitions during a flower show, the slides being made from some of the exhibits. Experience had taught us that methods or processes sought to be exploited by glowing accounts in newspapers rather than in journals devoted to the art with which they were connected are rarely long-lived; and while we wish this may be an exception, we have our doubts, as, as will be seen in the following extract from *The Amateur Photographer*, the same system is being pursued on the other side:

THE M'DONOUGH-JOLY PROCESS OF HELIOCHROMY.

Hints to Investors, Workers and Experimenters.

Very remarkable, indeed, extravagant, assertions have been made in the general newspapers regarding the McDonough-Joly process, but this alone would scarcely justify us in reverting to the subject at considerable length, especially as we have from time to time fully informed our readers as to the Joly process; and there appears no very essential difference between the Joly process and the McDonough-Joly process. A new aspect is, however, put on the matter by an article contained in the November issue of the *Photogram*; also by a post card circular sent out from the office of that paper, and calling attention to the article in question. One result is that we have received many inquiries from persons either contemplating a financial investment in any company which may be formed, or inclined to hold back in the matter of purchasing ordinary photographic apparatus until they can see what is offered in connection with the McDonough-Joly process.

The *Daily Telegraph*, cautious as it usually is in making absolute statements when financial interests are involved, goes so far as to say: "At last the dream of color-photography has been realized, and will be placed within easy reach of every artist of the camera." The *Scotsman*, a paper which dates from 1817, and which is, we believe, looked upon quite as an oracle by our Scottish readers, says that "A large syndicate has been formed in America which has acquired all the patent rights in connection with color-photography; and that steps are being taken to erect in England an establishment for the manufacture of the requisite materials. indicates that this new discovery is soon to be a practicable, applied art." The *Photogram* post card circular to which we referred thus calls attention

to an article contained in the November issue of the paper: "An article that should be of interest to you will be found on page 333 of the current issue of the *Photogram*. Its interest lies in the fact that it announces the satisfactory completion of a practical process of photography in natural colors, which has the advantage of being economical, simple, available for everybody, and of producing in addition to transparencies, prints on paper by both photographic and photo-mechanical methods." The article in the *Photogram* is notable as the only article in a photographic paper which unreservedly suggests that the McDonough-Joly process is of immediate and epoch-marking practical importance; but in criticising this article one of our German contemporaries very aptly suggests that the most satisfactory way of convincing the photographic public would be to issue examples as supplements to the photographic publications. There should be no difficulty in doing this if, as stated in the *Photogram*, "The owners of the process have it in a condition which justifies them in contracting to illustrate a large edition of an important series of volumes, by prints of eastern landscapes and figure studies."

The first suggestion as to making all three negatives of the heliochromatic triplet on one plate was made as far back as 1869 by Louis Ducos du Hauron, although we have no knowledge that he actually worked the method practically. For the understanding of a single negative method let us first explain how it is possible to take negatives of any three subjects on the same plate and to view these subjects separately, and, indeed, to make a print of any one of them. Let us suppose that in the camera and close in front of the sensitive plate there is a glass plate or screen evenly ruled with parallel opaque lines, each line being twice as wide as the intervening transparent space. When an exposure is made, only one-third of the plate will be acted on, and the resulting image will, of course, be discontinuous, but if the lines are sufficiently fine this discontinuity will scarcely be noticeable; so in this way a practically complete negative can be made on one-third of the plate, but to avoid the effect of extraneous light coming through the unexposed parts the negative would have to be viewed and copied in conjunction with the original ruled screen, so adjusted as to cover the unexposed parts. If after the first exposure we shift the screen laterally by as much as the width of a transparent line, another third of the plate may be exposed on a totally different subject, and after a second similar shift of the screen a third exposure may be made. After development the plate will show a confused jumble of the three subjects, but the negative or a print from it can be made to show either subject separately by so placing the original screen as to cover the two negatives or positives which are not required, the positions of the screen for any one of the three subjects being easily found by trial. A trial of prints on one sheet made by this process is an instructive photographic curiosity of special interest, and one which any amateur can make by exercising a little care. Whole-plate size is convenient, and the screen may be made by carefully setting out, on a sheet of card 17 by 13, black lines one-sixteenth of an inch wide, with open spaces one-thirty-second of an inch wide. This should be reduced to whole-plate size, every care being taken to keep the transparent lines quite clear.

The three negatives of an ordinary heliochromic system are such as would be obtained on an ideally orthochromatic plate under color screens which correspond to the visual color curves, the three tints being reddish, greenish, and bluish. If now a screen is ruled in these colors and is placed in front of the sensitive plate during exposure we shall have the three negatives on one plate, and if a transparency from such a negative is viewed when in contact with a viewing screen ruled to exact register in suitable viewing colors, it becomes theoretically possible to reproduce the original scene to the eye in all its color effect; but in this case, as in so many others, there are practical limitations which step in and make the result something less than perfection.

To begin with, there is no plate the sensitiveness of which corresponds strictly to the spectrum, and no color-stains absolutely fulfil the necessary conditions, whether as taking colors or as viewing colors; moreover, all colors hitherto found to be available for the transparent line screens have proved either individually or collectively to be fugitive on exposure to light. The above limitations, however, apply more or less to all methods of three-color heliochromy, and in spite of the above limitations, it is possible for amateurs to make interesting lantern transparencies by the Joly process, and, moreover, the negatives are also available as ordinary negatives.

Hitherto the mechanical limitations of the Joly process have been the chief obstacle to extended or industrial applications. The adjustment of the color screen to the positive has, we believe, been always by sight and hand rather than automatically or by some exact plan of registering, a system, or want of system, which necessitates a knowledge of the colors of the original in finishing the positives. The line systems used in the Joly process were one-eightieth of an inch apart, or in other words, each individual line was one-two-hundred-and-fortieth of an inch wide. Under these circumstances we believe that the difficulties of securing exact adjustment of the color screen to the positive on glass was considerable, and the false color effect by oblique vision was always noticeable, even when the most expensive glass was used. The production of prints on paper, whether by printing the triune positive in register on a paper previously colored in fine lines or by first printing the positive on the paper and then laying a ruled color screen over, proved, we believe, to be impracticable; and this by not only reason of the low luminosity of the print, but also by reason of the readiness with which paper alters its dimensions and form, a shift in any place of less than 1-2000 of an inch introducing notable color falseness.

We cannot say what the new venture (McDonough-Joly) may have to show or offer as time goes on, but we do not hesitate to express a decided opinion that very many of the press notices which have appeared are misleading.

Those who contemplate investing their money in any new company which may be floated, or who consider the question of much altering their arrangements in order to take advantage of the promised improvements, would do well to satisfy themselves on the following points:

1. Whether satisfactory reproductions can be shown, on the same plate

or sheet, of a subject which consists of full gradation in monochrome and a full color scale. For example, an ordinary photograph surrounded by representative patches of color. This Mr. Ives did many years ago by his process. It may be mentioned that the true rendering of a monochrome is one of the severest tests of the three-color process, as it is only by the just and proportionate combination of the "primaries" that monochrome is reproduced.

2. Whether the screen colors are sufficiently permanent against light to be practically useful; as, for example, in making window transparencies.

3. In the case of prints on paper, the inquirer should see the steady and satisfactory printing of numbers without failures, as this alone can answer the question as to whether difficulties as to register have been overcome. Isolated prints are of but little or no significance in this respect, as with absolutely no attempt at register, and trusting only to probabilities, one print in a certain number might be fairly satisfactory.

We reproduce this because it is the best popular description of the method that we have as yet seen, and we turn to it now because, thanks to Mr. W. J. McBride, of Chicago, we have for the first time been able thoroughly to examine the outcome of the method, including finished pictures of various sizes, positives without viewing screens, and viewing screens to be applied to them. Taking it for granted that Mr. McBride's work is quite up to the average that can be produced by the method, and from a careful study of its theory we think we may safely do so, we regret that the Color-Plate Company and its friends are attempting to exploit it by such glowing descriptions. It is really a good thing, but where much is promised much is expected, and when it falls considerably below the promise, as in this case it does, the disappointment will be such as to deprive the method of the attention and adoption that it really deserves.

The lantern slide, kindly given to us by Mr. McBride, is noticed as No. 1057 in "Our Portfolio" and reproduced in our December number; that is, a print from the negative from which the color slide was made, and so taken under the taking screen; from which it will be seen that the lines are not particularly objectionable. On the screen the slide is effective and the colors apparently true to nature, although just a little on the warmish, or reddish, side. The lines are not so pronounced as to be offensive, although to those who are close, and seeing the picture obliquely, they are a little disturbing. But they need a good light. For an ordinary exhibition in a hall, nothing short of lime, at its very best, will be satisfactory, although on a five foot screen and with acetylene, as we have learned to manage it, the disc was fairly well illuminated. In a large hall, and with a screen anything over ten feet, nothing short of the arc need be tried.

It is never safe to prophesy till we know, and there is so much in the

method that is good that we should like to see it succeed, but success will not come from claims in the newspapers and elsewhere that cannot be sustained, as has been proved over and over again in the sad experience of the all too credulous investors.

Prints for Reproduction.

PRINTING on glossy paper, with the better class of photographers at least, is now the exception rather than the rule; but those who have much to do with the engraver know that he prefers the glossy rather than the matt surface. To those who do much for the purpose of reproduction it is easy to keep papers and solutions in order and always ready, but where only an occasional print is wanted, things are apt to get out of gear, and the matt surface goes rather than go to the trouble of making up toning and other baths, even with the knowledge that the better reproductions would have been more than worth that trouble.

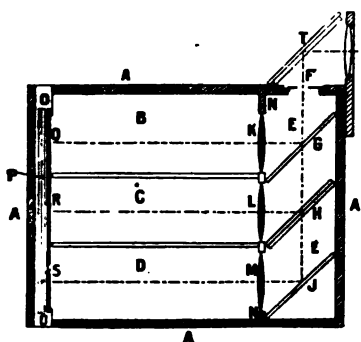
We have to thank the American Aristotype Company for a supply of their "Aristo Self-Toning Paper," which has shown us how easy it is to overcome the difficulty. It is a highly glossy collodion paper, with apparently good keeping qualities, and always ready for use. It is only necessary to print in diffused or sunlight to a shade a little deeper than the finished print is intended to be, soak for five minutes in a weak solution of common salt, and transfer to a ten-per-cent.-solution of hypo for fifteen minutes. Washed and dried in the ordinary way, and we have prints varying from dark brown to black, just such colors as the engraver likes, the shades depending apparently on the strength of the salt solution and on the depth of printing, and with the least possible amount of trouble.

Those who have an occasional print to make for the engraver should, therefore, keep a package of "Aristo Self-Toning Paper" on hand, so as to be always ready on the shortest notice and with the least possible trouble to make a print that will give the best possible reproduction.

For figure studies or *genre* work always employ the longest focus lenses possible under the circumstances; not only to secure an apparently correct perspective, but also because the less depth of focus tends to concentration of attention on the figure.—*T. Lee Syme.*

Ducos du Haroun's New Camera

WE clip from *Photography* the following abstract of Louis Ducos du Haroun's patent for an instrument for the taking by one exposure a set of "three color" negatives, or records, and for the viewing of positives made from them, which, as non-achromatic lenses are employed, should be less costly than anything hitherto proposed:



Three-color apparatus is thus described: The camera consists of a box A, divided into three separate chambers, B, C and D, and a fourth E. The luminous rays—the course of the axial ray, as represented by the dotted line—enter the box A at F, and passing down E are reflected in part by the transparent mirrors G and H, and the rest by the silvered mirror J. They thus enter B, C and D by means of the three convergent

lenses K, L and M, of one and the same focal length, and arranged rigidly on the vertical wall N, and the three images are thus formed on a plate P, carried in a dark slide O O. Suitable color screens are placed in front of the plate—a blue-violet screen at Q, a green screen at R, and an orange-red at S. At T is a mirror on a removable stand. This mirror, which can be replaced by a prism if desired, is only used when photographing. The instrument, which is reversible and is used also for viewing purposes, has this arrangement done away with when it is to be so used, and a slightly convergent lens being placed in the opening at F, the eye looks directly into the chamber E without the intervention of the reflector. The red-orange screen, necessitating the greatest amount of light if the duration of all three exposures is to be the same, is put in the lowest chamber D, and the mirror J is therefore silvered. To control the action of the blue-violet light a transparent green screen, with a small opening in its center to admit blue-violet rays, is placed at F when photographing. To increase in like manner the action of the green, a second glass plate, separated by a thin film of air from the first so as to utilize the two reflecting surfaces, is used at H. The plate being exposed and a negative made, a transparency is made from it by contact, either on opal or on plain glass, and this triple positive is placed in a frame in the same position that the plate occupied during exposure, care being taken that each of the three positives occupies exactly the position which the negative occupied for-

merly. The color screens are retained in their respective places; but behind the positive, that is to say, between the positive and the light which is to illuminate it for observation, is placed a frame carrying a mask with three openings to mask the edges of the positive images, and provided with a transparent screen of a grayish tint over that positive which is to be seen through the orange-red screen, so as to moderate its brilliancy. An eyepiece of slight divergency is placed at F, and the photograph in color is seen by looking in at F. The patentees state that "The image appears identical, not only as regards color, but as regards perspective and the erection of lines, to the photographed object, as if the latter were present to the eye placed in the center of the diaphragm. The image is entirely free from aberration, from refrangibility, and from distortion, notwithstanding the use of non-achromatic lenses, and the arrangement of the latter at large and unequal distances from the diaphragm. The general correction is due to the fact that the rays, in returning from the three images to the eye, through the combination of lenses and reflectors, follow exactly the same path which they had traversed originally. * * * Three conditions have to be observed: (1) The relative positions and the adjustment of the three reflectors must be absolutely the same as during the exposure; (2) the relative positions of the three lenses must be absolutely the same; (3) the perfectly straight or more or less broken line which passes through one and the same point of the three representations or prints upon the plate carrying the same, must, during the examination of the colored representation, have the same lateral adjustment, relatively to the perfectly straight or more or less broken line which passes through the axes or the centers of the three lenses, as during the exposure. Arrangements are provided for securing these three conditions, details as to which must be sought in the full specification. Drawings. (No. 15,753, British patent, 1899, A. J. Boulton, for Louis Ducos du Hauron.)

The British Journal on the American Exhibits at the Salon.

WHILE not altogether agreeing with our venerable contemporary, there is so much in what follows that is true, and with which we are heartily in sympathy, that we gladly reproduce it. It does not, of course, apply to all of the seventy American exhibits; they include some pictures of which any country may well be proud; but our readers may make a "good guess," and their authors will have no difficulty in fitting the caps to the proper heads.

"It is difficult to take many of these American 'photographs'—for so, we suppose, they must in courtesy be styled—quite seriously. With many of the productions of Mrs. Käsebier, Mr. F. Eugene, Mr. Clarence White, Mr. Watts Lee, and Mr. Holland Day, that have excited derision on the other side of the Atlantic, the pages of the American magazines and exhibition catalogues have long made us familiar, and habitual readers of the journal will not need reminding that, between the months of January and August, of this year, we reprinted from these publications many references to the deplorable travesties of photographic work which a handful of American photographers, encouraged by the adulatory writings of neurotic 'appreciators,' were deceived into believing 'artistic' or 'pictorial.' These things are to be seen in Piccadilly just now, and, no doubt, some of them will be reproduced in books and annuals during the next few months. There will thus be plenty of opportunities for English photographers to examine the newest pictorial work (*sic*) that has reached them from a distance, and those of them who are sufficiently interested in the matter to keep in mind what is exhibited year by year will have no difficulty in perceiving that the productions of these very modern amateur photographers are, if anything, less defensible than the mere blurs and fuzzytypes that were mostly laughed out of the English exhibitions a few years ago. A specimen of the critical writing, which must in some measure be held responsible for the photographic inanities produced in America and now sent to this country for public exhibition may here be usefully quoted. The critic or appreciator has taken the work of Mr. F. Holland Day for his theme:

"He is a psychologist, ever on the alert, ever seeking for this—to grasp and to express in material form the individual characteristics of his subject. What do I care for the blood flowing beneath the skin, for the network of swelling and throbbing veins? What matters the sight of the straining muscles full of life, if the invisible part, the mystery of this living being, be absent from the picture, if I cannot enter into communication with its spirit? I care not how brightly, how truly, the eyes may shine, if I know nothing of the thought, the fancy animating them. Even a flatness, or the projection of a bone, or the irregularity of a line, a deformity even, gives evidence of some habitual trait which, if at times contradictory, is, nevertheless, always full of interest. * * * As I said before, Mr. Day's art is one of delicacy and subtle refinement. To prove this, examine carefully the figures he so delights in. His subjects are intensely alike with the inner life; they seem heedless of all that might tear them from their own secret dreamings. They make no attempt at futile agitation, but are content with the thoughtful gestures of repose, the special poses

and attitudes of pensive grace, in which the artist has fixed them. Look, for instance, at his portrait of Miss Ben Yusuf. How well he has caught her habit, her ordinary way of being, "all her little ways." One feels at once that the artist has photographed her with his heart, if such a thing can be said. The portrait thus conceived becomes a plastic psychological synthesis of the person represented.'

"Plastic psychological synthesis? Plastic psychological fiddlesticks! As we remarked in March last, when reproducing the article of which the above rhodomontade is an extract, the portrait so referred to was a very ordinary photograph of a tastefully attired young lady leaning against the door of a room. But Mr. Day—of whose striking figure work some few years ago we have the most vivid recollection—is not the only victim of this hysterical foolishness; Mr. Eugene, Mr. Clarence White, and Mrs. Käsebier have all been subjected to it, and, if we may trace back effect to cause, these worthy people, who can make good photographs if they choose, devote so much attention to the cultivation of the plastic psychological synthetic that they have clean forgotten all they may have known in their early days, and obviously stand in need of a few elementary lessons in posing, lighting, printing, and so forth. Are there no evening polytechnics in New York, Boston, and Philadelphia?

"Those of us who have watched the drift of that new movement of which so much was said eight or nine years ago, are not astonished that it has culminated in the production of work which is the very negative of good photography. We saw it coming—this Cult of the Spoilt print. To be in this movement you must take a negative hap-hazard and neglect all considerations of lighting, composition, definition, and other devices of the ignorant. Preferably make a portrait of some person whose likeness you may wish to bury in a mass of gray shadow. Pay particular attention to your printing process, and select one which gives you a great amount of 'personal control.' With gum bichromate it is easy to brush away as much of the pigment as you choose, but the process is not one to be recommended, save in cases where it is desirable, from some cause or other, to raise strong doubts as to what was in front of the camera when the shutter moved or the cap was taken off. Local development with glycerine and treatment with a salt of mercury is an easy plan of securing 'washed-out' effects, or, failing mercury for the flesh tint, a little of the iron may be left in the paper. It is a splendid yellowing agent. Care must be bestowed on the trimming and mounting. If the subject is a portrait, run the knife through the back of the head and shoulder. The edges of the print should be left rough. In mounting, any position but a central one should be chosen. Brown paper is an excellent support for photo-

graphs, and it takes pencil or brushwork well, thus giving you scope for making a feature of your signature or initials, which, however, must be neither legible nor intelligible. The details of framing vary with the individual. A hen-coop supplies very good material for some purposes. On the other hand, the *passe-partout* system, which went out of fashion a quarter of a century ago, nowadays looks novel and uncommon.

"And of such is the Cult of the Spoilt Print! Surely in this matter the lowest depths of folly have been plumbed!"

Contribution Box.

SQUEEGEE PLATES.

For squeegeeing prints to give them a high gloss there is nothing like celluloid. The man who will cement sheets to boards and put them on the market will do a roaring trade. No grease, no talcum, no trouble; only wash the surface and squeegee down the wet print and it will drop off as soon as it is dry.

E. D. W.

PHOTOGRAPHY AT NIGHT.

Perhaps it would be interesting for those who study the illustrations in your magazine to know that the picture "On Euclid Avenue After 10 P. M.," reproduced in the March number, was really exposed after 10 P. M. The negative was made after that time, after a heavy sleet storm and by the electric light; with an exposure of thirty-five minutes with *f/11*, or U. S. No. 8, and on a Seed's "non-halation" plate. The fact is that the lens gave more detail than could be seen with the eyes.

CARL DISTLER.

DEVELOPING SHORT EXPOSURES.

While not a believer in the statement that the shortest exposure may be developed into a good negative if we only knew how to do it, I think the following system will, better than any other, bring out all that can be got from shutter exposures made under unfavorable conditions.

Lay the plate, face down and supported on two strips of glass, in a dish or tray, and cover it to the depth of an inch or more with a 5 per cent. solution of almost any of the modern developers. By a 5 per cent. solution I mean five parts of the developer made according to the formula recommended by the makers of ortol, metol, tolidol, etc., added to ninety-five parts of water; and the plate covered and left so for eight or ten hours. This has never failed to bring out all the detail possible, and a few minutes in a solution of the ordinary strength gives the necessary density without overdoing the lights, as is the case by any other method that I have tried.

It does not seem to make any difference which of the aromatic developers is used, at least I have had equal success with all that I have tried; but to insure freedom from air bubbles it is well to lay the plate in the tray face up, and cover it with the solution, and rock for a few seconds before placing it face down and covering it up.

GRACE ARMSTRONG.

Expose to the Developer or Develop to the Exposure, Which?

TECHNIQUE in photography is dependent mainly on two factors, exposure and development, and on the suitability of each to the other. In the earlier days of the dry plate when we had only pyrogallol and ferrous oxalate as developers, when nothing like the present degree of sensitiveness had been reached, and when the craze for snapping had not demoralized the mind photographic, under exposure was but little in evidence. Plates being slower the latitude was greater, and those of the pre-gelatine period having been able to change minutes to seconds were satisfied without giving a thought to fractions.

But new developing material came in, each having claimed for it the power of bringing out the image with less and less exposure, till it began to be believed that even the shortest conceivable exposure would be sufficient if we only knew how to bring it out. This is hardly likely till we have learned to overcome the inertia incident to the formation of the latent image, and which consumes a certain quantity of light without visible result, or result that can be developed into visibility; although there can be no doubt of the fact that some of the more modern developers bring out an image with much less exposure than others.

While it is true that any of the developers will bring out an image of an object that brilliantly reflects a brilliant light after a very short exposure, the objects that go to the making of a picture are not all such; indeed the pictures that include any of them are few and far between, and as the shadows are as important as the lights they may get their sufficient degree of light or the exposure will result in failure. Circumstances may occur in which it is necessary to make an exposure that can be only of the shortest; and although the outcome can never be as satisfactory as if one sufficiently long had been given, the fault may be to a certain extent overcome by the selection of a more active developer and the employment of it in such a way as will best increase its activity. Such procedure is at best a makeshift and should be resorted to only when it cannot be avoided.

It is the merest truism to say that the light passing through the lens must be sufficient to impress and make a developable image of the faintest lighted parts of the subject, and in the deepest shadows there is always some detail. It is equally true that there are no, or at least very few, blacks and whites in nature, and when the shadows have not been sufficiently lighted, and in forcing development in the effort to bring something out of them the lights have been made quite white, the result can only be the "soot and whitewash" that characterises at least 90 per cent. of the work of the camera in the hand, and probably half as much of that with the camera on the stand.

Apparatus, material, and methods have now been brought to a degree of perfection that makes the attainment of good technique as simple as A, B, C, leaving little to be learned but the most important thing of all, the timing of the exposure. And even that has been made easy by the employment of a reliable exposure meter and the application of a little common sense. With a Wynne or a Watkins it is only necessary to expose a slip of paper to the light for a few seconds, turn a disc or a ring, and you have the time opposite the figures indicating the stop that you are employing. But before doing this you should have fixed on the developer you intend to use, and after a few experiments you will have learned just what relation the meter time bears to what it ought to be to suit your developer. We generally employ ortol, and with our Wynne, which we occasionally use, we find the addition of about 25 per cent. to the indicated time to be just about right. For example, the view from the window of our study is open because the trees are still without foliage, but there are a few young pines that even in this dull sunlight cast shadows of considerable depth. To darken the test paper to the necessary shade it took 24 seconds. Turning the speed number of the plate, 78, to that, revealed the fact that with $f/22$ the meter exposure was 1.5 seconds, made two seconds by our addition of 25 per cent., and on developing a plate exposed for that time the result was our ideal of a good technical negative. The deepest shadow contained some detail or transparency, and there was not a single point of real white except a spot reflected from a brightly polished tin pail catching sap from a maple.

We think it may be taken for granted then, that while from any unavoidable cause a too short exposure has been given, and cannot be repeated, a passable negative may be made by suitably modifying one of the more rapid developers; the best, or even good technique can only be got on plates that have received a proper exposure; and although there is, with some plates at least, considerable latitude, the nearer to the correct thing the more perfect will be the negative. Nor should it be forgotten

that while it may be difficult without considerable experience to hit on just the exact thing, the leaning should always be to over rather than under, as, while nothing can be made of too much under exposure, a fairly good negative may be made from a plate that has got very much more than the correct thing.

Words From the Watch-Tower.

BY WATCHMAN.

TRIAL by jury is a great institution, although juries sometimes do queer things. One of the latest is a case in which an amateur photographer sued the Kodak Limited branch in Liverpool (England) for \$36.96, because he had seriously burnt his hand in igniting a flash light cartridge bought from them. In setting it off he used a wax vesta instead of a long taper or other means by which his hand might be at a distance, as anyone not quite a fool would have done, and gave further evidence of his folly by asking the people who sold him the stuff to compensate him for the damage, because they did not tell him what everyone who buys and uses flash light powder is expected to know. And the jury were as foolish as the pursuer; as, although the assistant who served him maintained that he cautioned him as to its danger, they awarded him \$24. It is to be hoped that the Eastman people will appeal and get a more reasonable judgment, else dealers who deal in things that can be misused will never be safe so long as there are fools in and out of the jury box. Later, however, the judge granted a new trial on the ground that the jury were not justified in their verdict.

* * *

Can anyone tell me just what Mr. William Gordon means, when, in page 81 in Wilson's for March, he says, "In spite of his free trade the Englishman goes to Belgium for his glass?" I have always understood that it was *because* of his free trade that the Britisher was able to go anywhere all over the world and buy in the cheapest market, so that he could get what he wanted as nearly as possible at the cost of its production without having to add to that anything to fill the pockets of those that were better off than himself.

* * *

What is there in photography that makes photographers, many of them at least, so different from other craftsmen or men who live by supplying the public with something that it wants? Men of other trades and professions go about their work, doing it as well as they can, with never

a thought against the thousand and one amateurs, who do little jobs for themselves and others, and never a complaint against their less favored brethren who peddle the articles which they make or in which they deal under their very noses. But to the photographer the amateur is a bug-a-boo, who, together with the man who goes from village to village in a caravan and the coupon man, are taking the bread out of the mouths of his wife and children; and should be put down, although hardly any two can agree on how it is to be done.

That this was the case here up to a year or two ago, the journals of the time will show; but a change has come over the spirit of their dream. They, or most of them, have learned that the amateur, instead of an enemy, is their best friend, and that he who can and does good work has nothing to fear from either the caravan or the coupon. But the spirit is not dead, it has only emigrated, and at the present moment is raging with full force in England, and with a virulence far ahead of anything that appeared on this side.

It seems that two firms, one a soap, the other a cigarette maker, "Bubbles and Smoke" they are euphemistically designated, have by way of advertisement, offered for a certain number of coupons, one of each being found in each pound of soap or package of cigarettes, and sixty cents, to supply a dozen copies of any photograph that may be sent. The copies, it appears, are bromide prints about the ordinary carte de visite size, and on a cabinet mount; and as mounts of a certain kind are cheap enough, and bromide paper, also of a kind, need not cost very much, it would not be difficult to make a fair living if one got enough to do at sixty cents a dozen. Somebody must have been paid for making the negative and the print that has to be sent, and the firms in question must each employ a staff of photographers to copy the prints and print from the negatives so made, but these facts seem to be overlooked, and under the belief that the print so sent, although bought and paid for, is still in some sense their own property, thieves and robbers are the general terms applied to those who copy them.

One of the journals has espoused the cause and opened its pages to its exploitation, and the result has been as if the "Fiery Cross" had been sent round. From lands-end to Jonny Groat's, photographers have been aroused, and for weeks page after page has been filled with scheme after scheme for the expulsion of the intruders, and the cry of combine, combine, combine. Combination would be a good thing in many ways, and if the silly scare can bring about that it will have done ten times more good than any ill that ever can result from it, although when they combine they will be no nearer what they now consider their main object than before.

Suppose the combination to be effected and it were to bring the whole of its members together, I have no hesitation in saying that if they were to speak honestly, not half a dozen of the lot could say that they had been in the slightest degree injured by what they now so thoroughly condemn, and the scare there will pass as such scares have passed here. It is only the less successful of the fraternity there, as well as here, that are ever ready to blame any cause but the right one for their lack of success; the successful men, successful because of the better work they do, keep on quietly doing it, knowing that good work will always bring its own reward, and that each really good picture that leaves their establishment surely paves the way for still greater patronage.

Hand Camera Portraiture.

BY WALTER SPRANGE.

OFF-HAND portraits with some "life sparkle" to them, are best made out of doors in diffused light from above. Such portraits have to be made at short distance to be of any size, and therefore no diaphragm is needed. With rapid dry-plates, a slow speed of shutter, and full opening to lense, good results can be relied upon in diffused lights almost up to one hour before sundown. Even on foggy days I have found that exposures made at short distance with full open lense and slowest speed of shutter will produce excellent definition and softness, besides ample contrast.

It is those thoughtless exposures made in direct sunlight, or snapshots made under cover, that produce so many failures in out-of-door portrait work. Portraits in rooms always require thought and study, the light conditions vary so greatly. As a general rule the light should be from above, in front of the sitter, but predominating either on one side or the other. I generally suggest sitting down on the door-step, or in the doorway, on the shady side of the house, with the dark space of the open doorway behind for a background. Especially have I found this a good method for "snap-shotting" children hurriedly. At three or four feet distance, with open diaphragm, and slowest speed of shutter, I have sometimes made several exposures of different children, and all have proved successful.

Included in the so far itemized account of his expenses in connection with the Paris Exposition, Commissioner General Peck has \$223.65 for a camera and \$128.18 for cards and plates, but as there does not appear to be anything charged for the photographer, it was probably for the use of an amateur. It should have been a rather fine camera.

Our Portfolio.

Communications for the editors, pictures for criticism (only one print at a time) and apparatus and material for examination, should be sent to Dr. John Nicol, Tioga Centre, N. Y.

1196. W. H. STANCHFIELD.—“Down in the Pasture” is a good subject not so well photographed as it might have been. The foreground is a trifle too low and consequently the sky too high, giving to the cattle a dwarfed appearance. Then, the focusing has been wrong, the distant houses, instead of being seen through an atmosphere, are sharper and more distinct than the cattle in the foreground. The selection and arrangement are admirable, and if the lens had been lowered a little, the focusing attention given to the real objective point, the cattle, and a sufficiently large stop to give the necessary atmosphere, you might have had a first-class picture. It has sufficient educational value to induce us to reproduce it.

1197. G. O. VAN BERG.—The remarks on 1196 apply equally to “Pasture-land.” Try the same subject again, following the above advice.

1198. W. E. COGSWELL.—“Where’s that Nickel?” a negro newspaper boy with papers under his arm, counting his cash and apparently finding it a nickel short, is one of the best things we have seen for a long time. Pose and lighting are admirable, while the expression is simply perfect. In the face can be read as plainly as if written down, not only the effort to recall every cent that he had spent, but also how much the loss of even a nickel means to him. There is only one improvement that we can suggest, and its absence is hardly a fault. It is that the very natural angle at which the figure leans suggests to a slight degree that it may tumble over, and to overcome that and suggest stability some small thing, a boulder in the path for instance, might have been placed on the right to give a balance to the figure. As it is, however, we like it very much and shall have pleasure in reproducing it.

1199. S. B. CHALLINOR.—“After His First Cigar.” This is a companion to 1137, “His First Cigar.” Here he is feeling its effects and shows it admirably. Pose, expression, and lighting are fine, and the picture as a whole is a decided success. The second copy of

1137 is better than the first, and we shall have pleasure in reproducing them together. See pages 196-197.

1200. S. E. CRONLHITE.—“Checkmate,” a flash-light of two figures at chess, is good enough as far as it goes, but might have been very much better taken in a more suitable light. If you want to take photography seriously you should always work under the best possible conditions, and flash light is at best a makeshift. The arrangement is good, but would have been better if you had shown more of the lower part of the figures. Then, the face of the lady is much too chalky, wanting in texture, and the wall paper behind is more prominent and sharper than the figures in front of it. Don’t bother with flash light so long as you can work by day, get further away from your figures, and take care to so subdue their surroundings that they will not obtrude themselves on the attention as they do here.

1201. LOREN E. GUSS.—“A Quiet Place” is a good photograph of what might have been made a good picture, but you have missed your opportunity. The feeling conveyed is as if you had photographed a model rather than the scene itself, caused mainly from the entire want of atmosphere; the distance being quite as well defined as the immediate foreground. Different lighting and the employment of a larger stop might have cured this fault, but nothing could excuse the introduction of such an unsuitable figure, and in probably the worst possible place. Figures in landscapes are always risky although when suitable and properly placed they improve the picture, but a city-clothed boy in a quiet country road gives you away at once. It is a good photograph of the “record of fact” kind, without pictorial value. A careful study of Robinson’s “Picture Making by Photography” would help you much.

1202. M. L. HANAFORD.—“You Can’t Guess How Old I Am,” a cute little girl sitting on an old-fashioned cellar door under the shade of a large leaved vine, is a quaint idea well, very well, photographed. The arrangement could hardly

have been bettered, the exposure and development have been correct, and if the light had been just a little more to the side it would have been almost perfect. We like it very much and reproduce it on page 208.

1203.—T. C. THATCHER.—“The Windsor Hills Road.” Photographically this is all right, but from a pictorial point of view it is all wrong. By the use of a far too short focus lens the foreground, mainly the road, is fearfully exaggerated and the distance correspondingly diminished, the figures being almost microscopical. If you had included only what we have enclosed within the lines and with a lens to do so from the same view point you might have had a fine picture. We reproduce it (page 201) as an object lesson.

1204. C. H. PARKER.—“His First Pants” is excellent from every point of view; what would in other photographs be serious faults being virtues in it. Position and expression are just right. The proud strut with legs distended tell how firmly he feels planted on the first step to manhood; and the thoroughly self-satisfied smile is admirably expressive of his delight thereat. The plain background is also an advantage, although a shade lighter would have been an improvement, as would have been a less pronounced pattern in the cover of the couch or whatever it is on which he stands. We reproduce it on page 203.

1205.—ARTHUR GOSS.—“A New Mexico Landscape.” This under any conditions would be a difficult subject and gives ample evidence that three seconds with ray filter and at $f/39$, is much too short. The rocky masses in the middle distance are almost white unless where under the shade of the massive cloud overhead, and there they are as black as paper can be blackened, as is also the tufts of what doubtless is greenery in the foreground. A longer exposure or a weaker solution in the filter should have been tried; or perhaps better still, an aperture of $f/16$, so as to give a chance of securing better atmosphere. The arrangement is also somewhat at fault in so far as the horizontal line of white separating the rocks from the foreground too closely repeats the lower margin of the picture; and the cloud is too large, giving a top-heavy effect to the whole.

1206. R. H. CLARK.—“In Trouble” is one of the few photographs that at the

first glance is likely to be passed as merely a record of fact, but that on closer examination has a story, and a serious story to tell. A rickety box wagon hardly fit for the long journey indicated by the hoops and ragged canvas to make a covering when night comes on; pieces of harness scattered about; a disconsolate figure evidently in deepest thought, sitting on the tongue which rests on the ground; and a horse tied with a long halter to one of the wheels and looking at him with an expression as if anxious to say: “I am sorry for you and would help you if I could.” Which of all the many possible troubles has overtaken the wanderer? We reproduce it on page 198 and let each reader form his own opinion; merely adding that a photograph that suggests so many thoughts comes out of the mere record of fact class and takes its place in the pictorial.

1207. C. R. PANCOAST.—“Becalmed.” Our valued correspondent has long shown by his work that detail and definition, where they should be, are not inconsistent with true pictorial effect, and in this we have another beautiful example. The “Clytie,” a beautifully equipped yacht resting on the surface of the water with its masts as perpendicular as if placed by a plumb-line, and the limpid water with its wavelets parallel to the horizontal coast-line, their motion emphasized by the light and shade of what would be the track of the vessel if it were in motion, all join together in conveying the feeling of rest or repose. We reproduce it as a fine example of this class of work on page 210.

1208. E. L. SANDERSON.—“The Barway.” This is one of the few snow-clad landscapes that have come to us properly exposed, and the longer we look at it the better we like it, although it includes anomalies that will not bear analysis. The idea of a pretty heavy snowstorm is admirably suggested, and yet there is sufficient shadow to show that the sun was shining brightly; and while the sky is whiter than such skies generally are, the telegraph cross bars are seen against it whiter still, indeed as white if not whiter than the snow. As a picture, the tone is too uniformly gray all over, too much light and too little shade, the cause being that it was exposed at the wrong time of the day. The sun was too high and too nearly behind the camera. In snow scenes more than in any other class

of subjects are long cast shadows desirable. We shall try to reproduce it as an object lesson.

1209. WILL G. HELWIG.—“The Winding Road” is a fairly good subject and probably from the best point of view, but the lighting has not been quite suitable, resulting in a want of sufficient contrast. It is practically all middle tint, without light or shade, and there is no real objective point or object of especial interest except the rather effective cloudy sky. You must learn the value of light and shade, and especially how to arrange and mass them before you will do much in true pictorial work. Then, the sky *feels* a little too pronounced, as if it did not quite fit the subject. Try intensifying the negative a little, that may give just the wanting contrast. The feeling of atmosphere, especially in the region of the house on the hill, is very good. If after intensification the result is as we expect, we shall be glad to reproduce it, and if you should send a copy for that purpose, please mark it 1209.

1210. L. SMITH.—“The Handwork of God.” Of the conditions under which this was taken you say: “There was a very gentle breeze and the water rippling on the sandy beach was mingled with the song of birds in the nearby trees, making all life seem like a dream”; and we believe it, although nothing that we have ever seen in the pictorial line, so utterly fails to convey an impression of any one of those conditions. Indeed, but for the better definition of the clouds, we should have said that it had been the result of a long exposure to moonlight, as, while it suggests that and suggests it very well; it suggests nothing else that ever appeared under the sun. The foreground, which we are told is intended to represent sand, is simply a strip of the blackest of black paper, and equally black is the mass of foliage on the left, blacker than ever birds were seen or heard on. Next comes a sheet of water in parallel wavelets that might have been beautiful, but alas, while on their crests they are gray, the troughs are as black as the foreground. And lastly, the sky, which at first sight is really beautiful, although it will not stand a close examination; and the cause is the same blackness. The lights are attractive and the arrangement of cloud effective, but surely you never saw clouds so black, or if you did it would be time to look for shelter, not a time to listen to the singing of birds.

Although the sky, as we have said, is pretty at the first glance, as representing the conditions under which it was taken it is in every sense of the word an utter failure, mainly from a too short exposure, but also to a certain extent, from under development.

1211. CHESTER W. LARNER.—“Lengthening Shadows.” The photography in this is better than the selection, the subject not being of any special or pictorial interest. It lacks motive, objective point, or anything on which the eye cares or indeed is expected to rest. With one-third of the matter on the left excluded and the remainder made into an upright so as to give more sky, you might have had as good a picture as this is a photograph, only that the sky is a little too high in tone.

1212. F. E. BRONSON.—“Innocence,” a girl almost in profile with her hair, which seems more than usually abundant, hanging over her shoulders; looks innocent enough, but it is the innocence of absence rather than the presence of consciousness. And then, it is the definition of the olden time, the definition that engages the eye in the examination of the detail of the various parts instead of filling the mind with admiration of the expression as a whole. The first, last, and all the time impression is that the contrast between the all too white of the face and the equally all too black of the hair, imbedded as it is in the quite as black background, is far too great; indeed the texture of the face is such as to make us almost believe it to have been copied from a very well made wax model. In spite of those serious faults, however, we like the picture, as there is much in it to admire. The reflected light from the glossy black of the hair, and the perfect unconsciousness of the model are effective; and if you had employed a lighter background and taken care to have a little atmosphere between it and the figure and exposed long enough to lessen the all too great contrast, you might have had a fine picture. We reproduce it as an object lesson, on page 207.

1213. A. B. SHARPE.—“The Swans” is a much too difficult subject for anyone not an experienced photographer, and it is small wonder that you have not succeeded. Everything but the swans is in one monotonous dark without contrast of any kind, and fails to make any impression unless it be the unreality of finding

swans feeding in such darkness. Intensification might improve the negative, but it would spoil the swans, and before you attempt such subjects you should learn how to expose and develop so as to get sufficient detail in the shadows without overdoing the lights.

1214. F. J. RUSSELL.—“A Bright Day” is a fine subject very badly photographed, indeed it is hardly worth the name of a photograph. It seems to be a stream with boulders here and there, and banks clothed with foliage; but probably from a too short exposure and improper development these are represented by a few lines and spots of black and all the rest of the paper covered with splashes of white, as if “sparked” from a brush loaded with whitewash.

1215. F. S. KEILER.—“A Hudson River Lighthouse” is a very pretty little picture, as nearly perfect as such a thing can be; true in values, and a fine example of the “happy medium” in the fuzzy question. The more we look at it the better we like it, and, with us at least, that is one of the tests by which we recognize a good picture. It is almost too small for reproduction, but we shall try. It would make a fine enlargement.

1216. J. A. GLASSY.—“Gilman's Lane” is a good subject that would have been better of simpler treatment. There is too much crushed into the small space, and the distant homes, the apparent goal of the figures, is a mass of confusion difficult to disentangle. The print would be improved by trimming off all to the left from half way between the larger figure and the thin tree, and the result would have been still better if it had been an upright and the additional space given to additional sky.

1217. J. ST. CLAIR MCQILKIN.—“Fort Washington Point.” You have an eye for selection, as, properly photographed, this would make an attractive picture; but we are sorry that you consider it “nice,” as it really would be difficult to make it worse. First, a narrow band of perfectly white paper is made to do duty for sky; then a band of half dark represents the palisades, and under some circumstances might represent them well enough. Next a mass, probably of rock, but it is not far from being as white as the sky, and on it a few trees as black as black paper can make them; and lastly, another large mass of white, meant to be water as is indicated by the shadows of

the trees. In short, it is simply white and black, and the cause is gross under exposure. You say “there was a faint haze,” and the “shutter” set to 32 U. S. Of course you mean the diaphragm or stop was at that figure, which is $f/22$, and as the exposure was only 1-6 of a second, it would have been a wonder if you had got anything better.

We cannot in this column teach all about exposure and development, but may say, what we have often said before, unless you expose for the shadows you will never make pictures by photography. Under the circumstances we should have given at the least one second. You will find just the information you most need in the leading article of our August, 1900, number.

1218. CARL DISTLER.—“After the Rain” is a fine example of the beauty of simplicity; a branchless tree or two, a fence, and a pool and the sky does the rest. Not that the sky could have done its admirable work unless the few objects in the landscape had been properly placed, but they are just as we think they ought to be; and the feeling of “clearing up” is admirably conveyed. We shall have pleasure in reproducing it.

1219. C. H. WILKINS.—“Frosted Shrubbery” is as poor photographically as the print noticed in March, No. 1172, was good. It is too uniformly gray, and without a trace of the sparkle always incident to properly represented frost. Nor has the selection been happy; a less condensed shrubbery and less of it would have given opportunity for the necessary contrast and massing of the shadows; and probably a shorter exposure would have materially helped to make it what we should like to see it rather than what it is. See “Answers.”

1220. F. E. BRONSON.—“A Winter Morning” is a fine example of the record of fact phase of photography, almost reaching to the pictorial. Indeed it needs only the necessary atmosphere and truer values to be a picture; but the distance is as well defined as the immediate foreground and the trees, unless where covered with snow, are simply blackened paper, and the water in the shade is almost as black. Never forget that even with snow scenes unless you expose long enough to secure the necessary detail in the shadows you cannot get true values. With all its faults, however, it is pretty, and we reproduce it on page 199 as a good

object lesson; as showing what, with a large enough aperture to give something like atmosphere, and sufficient exposure to give true values, it might have been.

1221. B. LINDSTROM.—“Mid-Winter.” This, as snow scenes go, is fairly good, but it offered opportunities of making something very much better. The snow and the sky are too much alike, especially where they blend into each other on the right, and it is a pity that you did not give it a little human interest by having a figure toiling up the hollow between the fence and the higher bank, leaving heavy footprints behind. Not only would this have given it the desirable human interest, but it would also have given the necessary balance to the tree that is about to fall for want of some such support. We reproduce it as an example of something that could so easily have been made much better. See page 195.

1222. JETHRO BROOKS.—“Kokanee Creek” is an excellent subject, so far as it goes, and photographed with a breadth and boldness very well suited to it. But it altogether fails to make the desired impression; conveying the idea of a good picture cut in two. The more we look at it the more we feel the want of something to complete the composition; and the eye wanders always to the right searching for something that should be there. You have come very near to a great success, and perhaps would have altogether reached that goal from a point of view of only a few feet to the right.

1223. W. M. MURRAY.—“Meditation,” a girl in deep thought in front of an evidently glowing fire, is a charming effect of lighting and an excellent pose. It has only one fault, the model has not been able to assume just the expression required, an expression of unconsciousness of all external things, more easily recognized than described. It is an am-

bitious phase of work, and great success cannot be attained without considerable training on the part of the model. We reproduce on page 206.

1224. F. P. STREEPER.—“In the Meadow” was hung in the late Philadelphia Salon, and it well deserved it. It does not belong to the eccentric, but to the “straight photography” class; and is in every sense of the word a picture and an excellent example of what may be done by the too frequently tabooed working against the light. See frontispiece.

It is difficult to say whether the greatest charm lies in the winding of the sluggish stream and daisy covered bank that make up the foreground, the bold massing of the trees so well and so prominently placed, or the fine and rarely found atmosphere in the distance; but altogether they make a picture that we shall have real pleasure in reproducing.

1225. E. B. COCHRANE.—“In Nature’s Garb” is the nude figure of a young man in a wood, and from the pose and the hand at the mouth, conveying the idea that he is eating berries from a bush before him. The pose is natural, although not as artistic as it might have been, and the lighting is such as best to show the anatomy of the figure. But the first idea that occurs to us on looking at it is, why was he wandering naked in such a gloom? His surroundings are simply black and gray, with very much of the former and very little of the latter. You should have aimed at a sunshiny effect instead of one conveying the feeling of the shades of evening, and very dark shades at that; which means a much longer exposure and careful development so as to retain the delicate beauty of the figure and at the same time give a sunny effect to its surroundings. We reproduce it (page 202) as a good object lesson.

Our Table.

Books for review and apparatus and material for examination and report should be sent to Dr. John Nicol, Tioga Centre, N. Y.

“THE PHOTO-MINIATURE” keeps up its interest, the March number telling all about clouds in landscape photography and how best to get them; and especially about color screens and how to use them. We are especially pleased to see that its author speaks with no uncertain sound

on the advantage of using backed and orthochromatic plates, as to us it is the greatest puzzle connected with photography why any one ever uses a plate that is not both.

We notice, however, in the “Notes,” on page 524, what must be a slip. Speak-

ing of "Historic photographs," the editor says: "Some of the paper negatives were as large as 18 x 22 inches, made with a Lerebour view lens of 4 inches focus." Such a lens would be something like Paddy's gun, could shoot round the corner. Forty inches would be more like the thing.

TWO NEW RAPID LENSES.—We have to thank the Bausch & Lomb Optical Company for an opportunity of thoroughly examining and putting to the test of practical work two recently introduced lenses that should be interesting to those who want to do the best possible work with the shortest possible exposures. They are the "Unar" and the "Plastigmat."

The Unar consists of two dissimilar and uncemented systems of two lenses each, with an aperture of $f/5$, which means that it is nearly sixteen times faster than the lenses in the cheaper hand cameras and four times faster than the best rectilinears, the relation being as 1.5 is to 16, and as 1.5 is to 4.

Nor is its speed its only advantage. Notwithstanding its great aperture its anastigmatic and spherical corrections are so perfect that its flatness of field and definition to the edges make negatives by it preeminently suited for enlargement. For those who take photography seriously, and want to do the very best work possible with a hand camera, we cannot imagine anything except perhaps the Plastigmat more suitable than the lens we have examined, a No. 5 Unar. We may add that when stopt down to $f/11$ it covers a 5 x 7 plate as perfectly as it does a 4 x 5 at $f/5$.

The "Plastigmat" is a new lens, designed by Bausch & Lomb, and patented in the latter part of last year, and except that it is just about half the speed of the Unar, is, for an all round lens, and especially for a hand camera lens, if not without a peer, certainly not excelled by any lens on the market. Its aperture is $f/6.8$, close on the U. S. 3, rapid enough for most purposes, and so compact that the mount of the $6\frac{1}{4}$ inch, listed for 4 x 5, is only 1 7-16 x 1 3-8.

It belongs to the symmetrical type, each of the two systems consisting of four cemented lenses, and as each is perfectly corrected the "back lens" makes one of the most perfect landscape lenses in existence, with a speed of $f/13.5$, considerably faster than most of the cheaper

hand cameras, and with a focal length of 11 inches, nearly doubling the size of distant objects and making an ideal portrait lens.

Any one who will, as we have just done, compare the Plastigmat with one of the most perfect rectilinears, even by a mere examination of the image on the focusing screen, and far more by a study of the negatives, will never again be satisfied with the latter. Focused on the test chart originally sent out by the Bausch & Lomb Co., or on a sheet of printed matter, the lines, dots, circles and letters have what has been variously called black definition, razor cut, etc., up to and considerably beyond the edges of the plate for which it is listed, and that without a trace of distortion of any kind. In short, the plastigmat need only to be tried to show that it is, for all round work, and especially for hand camera work, one of the most perfect lenses yet introduced. We may add that for hand cameras that focus by scale, a scale suited for each lens will be supplied at a cost of 50 cents, and advise those who are likely to be in the lens market to send for a copy of the "Plastigmat Booklet," which will tell more about the wonderful lens than we can find space for here.

S. T. SIMMONDS, of Newark, N. J., is an enthusiastic amateur who believes in letting others know of a good thing. Every photographer, amateur or professional, should send for one of his negative record books, and receive also a set of small numbered and gummed labels for affixing to negatives. Keeping track of negatives and particulars of exposure, etc., is impossible without a system, and Mr. Simmonds supplies the system and the means at less cost than the poorest makeshift could be produced. For particulars see advertising pages.

THE NEPERA CHEMICAL Co., Nepera Park, N. Y., are furnishing an appliance which they call the Velox Printing Board, which should be seen by all who do any amount of gaslight printing. It consists of a board or table on supports which are adjustable to any height of flame. A support for the printing frame slides on parallel rods and can be instantly locked at the desired distance. Lamp, electric light or gas can be used. It is furnished complete with gas attachment at \$2 by all dealers. Circular free from

Nepera Co. As a saver of paper and of time it would soon cover the small cost.

HASTINGS & MILLER, 118 Nassau street, this city, are offering to make for a limited time only, 8 x 10 bromide enlargements from any size negative, at 25 cents. Only one print from each negative. This is to introduce the quality of their work. The merited success of this firm has been phenomenal. They now occupy the

whole building (four floors), thereby having every department under their direct supervision.

THE DICKINSON CO., 83 Nassau street, invite inspection of an interesting exhibit of amateur work now on their walls. Studying the work of others is of great educational value, and sometimes a good antidote for self conceit.

Hand Cameras of 1901.

THE AMERICAN AMATEUR PHOTOGRAPHER has always aimed to supply its readers with timely and authentic reports of new discoveries and new apparatus in the photographic field. In pursuance of this object we herewith briefly describe some new hand camera models and improvements on last season's lines.

REFLEX CAMERAS.

REFLEX CAMERA CO., YONKERS, N. Y.

The Reflex Camera is constructed especially for photographing objects in rapid motion. The focal plane shutter gives all speeds up to the 1-1000th part of a second. There are several excellent features about this camera which account for the beautiful, clear, crisp work it produces.

The chief point of interest is that it reflects the image from the lens by a hinged movable mirror upon a horizontal ground glass up to the instant of exposure, so that the operator can see what is to be taken. When the release lever is operated the mirror is forced up to the under side of the top part of the camera and the focal plane shutter in the rear is automatically released. After the exposure the mirror falls to the usual angle and reflects the image again upon the ground glass. There is ground glass in the rear for focusing in the usual way when the camera is on a tripod, and room enough at the back for two or three double plate holders. The focal plane shutter is arranged to work at different speeds by a guide or pointer at one side, and the aperture in the shutter is adjustable to different sizes according to the subject and light. A fan blade can be attached to one of the shafts of the shutters for slowing the speed. The hood at the top is collapsible and is held up in position by a jointed rod. The entire construction is simple yet strong and effective. Next month, in connection with Collinear lenses, we shall reproduce some wonderful examples of high speed work done with the Reflex Camera.

REFLEX CAMERA, 1901 MODEL.

MULTIPLYING OR "PENNY PHOTO" CAMERAS.

S. WING & CO., CHARLESTOWN, MASS.

Fifteen separate or duplicated negatives on one 5 x 7 plate, giving fifteen prints at one operation of printing and toning, is what can be accomplished with the New Gem Camera. There should be considerable profit in this class of work for professionals, and also for amateurs who desire to earn an honest dollar. Photographs at one cent each ought to sell everywhere. With the Gem Camera they can be satisfactorily and profitably produced at this price. The camera is of the fixed focus kind, has a double portrait lens and finder, is small and compact and easily operated.

The whole outfit complete at \$8.50 is one of the simplest and cheapest outfits ever produced. Any one who can make a negative and print will succeed, and the quality of the work is only limited by the skill of the operator. S. Wing & Co. also make another camera capable of producing as many as 525 exposures on a 5 x 7 plate, or up to 8 x 10. Particulars of this and also other specialties will be sent by the manufacturers on request.



BULLARD CAMERAS.

BULLARD CAMERA CO., SPRINGFIELD, MASS.

(E. & H. T. Anthony & Co., New York, Special Agents.)

The Bullard Long Focus Separable Magazine Cycle Camera, No. 15.

Is a revelation among cameras, possessing entirely new features, which particularly commend it for the use of amateurs. It possesses the usual rising, falling and sliding front, rack and pinion and swing back movements. Special care is taken in the construction of this camera, all parts being accurately measured by the metric system, by which they are made interchangeable. The camera throughout is made of

selected mahogany, highly polished and handsomely covered with fine morocco leather. The metal work is all of brass and forged steel, with nickel finish and lacquered. For copying, enlarging, and all other work requiring the use of long focus lenses, it is especially adapted, having an extension bed of forged steel, making the camera perfectly rigid and insuring against vibration when the bellows is drawn to its full length. The pinion is imbedded near the end of the bed of the camera, giving perfect control of the camera when focusing, even with full drawn bellows. This camera has, as its name indicates, a separable magazine attachment, a prominent feature of the new style Bullard magazine cameras, and is especially adapted to the use of those taking short tours on bicycles, as it dispenses entirely with extra holders, and by its construction the plates are changeable in broad daylight. The lens is of the instantaneous symmetrical class, and is an excellent instrument. The front lens may be removed and the rear combination used when taking views of objects at a distance, thereby nearly doubling the size of the image. The lens is fitted with a Rauber & Wollensak Optical Co. double valve shutter with an iris diaphragm. The finder is a double lens brilliant. The double plate holder is made upon entirely new principles—two imbedded buttons on the end of the holder retaining the plate in position and releasing it as desired. The price—\$40.00—includes camera, lens, shutter, magazine attachment, ground glass screen, double plate holder, and sole leather carrying case with strap. Made only in 4 x 5 size.

The Separable Magazine Bullard is also made in various styles and proportionate prices in the Cycle form, with ordinary length bellows.

The Bullard Cycle Cameras

Are unusually compact in size and light weight, two very important features to the tourist and wheelman, have been attained without sacrificing their durability and convenience of manipulation. They are the handsomest Cameras ever made, containing everything that is modern contributing to make them unlimited in capacity.

The highest grade of carefully selected mahogany is used throughout in their construction. The brass parts are highly polished and heavily nickel plated. The varnished work is beautifully finished, presenting an appearance rarely seen on Hand Cameras. The elegance of these Cameras cannot be appreciated until they are seen.

Double Swing Bullard Cycle.

The design of this Camera is entirely new, the double swing back mechanism being a special feature. It is fitted with special rapid symmetrical Lens, Rauber & Wollensak Double Valve Pneumatic Shutter with Time, Bulb and Instantaneous Adjustments up to the 1-100 of a second, Rising, Falling and Sliding Front, Rack and Pinion and Brilliant Finder. Sole leather case and shoulder strap and one holder are included in the price.

Regular Bullard Cycle.

This camera is very compact and light, the 4 x 5 size measuring but $2\frac{1}{2}$ x $5\frac{1}{2}$ x $6\frac{1}{4}$ inches and weighing less than 2 ounces over 2 pounds. It is equipped with lens and shutter with all adjustments of speed as described under Double Swing Cycle. Made in 4 x 5 (\$20.00) and 5 x 7 (\$27.00). Also made without rack and pinion adjustment at corresponding reduction in price. This is one of the neatest and best made instruments on the market.

Reversible Swing Back Bullard Cycles.

While these cameras belong to the class of Cycles, their peculiar construction warrants some further description. The automatic swing back arrangement, described as a part of the Bullard Long Focus Camera, is a part of this camera's equipment. The swing back mechanism can be seen in the accompanying cut, which shows the rearwardly extending swinging section. By pressing on the large button shown in cut, this section automatically jumps back, when it may be locked at any desired angle by turning the locking thumb shown on bottom of case. This entirely new swing back arrangement is the most convenient and effective that has ever been devised. The mechanism for locking the rising and falling lens board and the sliding standards, also common to all the Bullard Cameras, is exceedingly attractive and practical. This camera combines all the adjustments and capacities of a strictly high-class camera.

The Bullard Regular Folding Cameras.

This style of camera differs from the Cycle in having a receptacle in the back of the case for carrying three double holders. They are unusually compact and light,

fully meeting the demand for a camera requiring no carrying case, yet supplying the capacity for storing a reasonable number of holders, and are provided with single swing back.

The general appearance of the 2-A Folding resembles that of the 2-A Cycle, excepting diameter of the case. Lens and shutter equipment same as on Cycle pattern, and prices the same, also furnished without rack and pinion adjustment. This style of camera is also made at \$10.00 and \$15.00, respectively, for 4 x 5 and 5 x 7, with single achromatic lens and single valve shutter. Workmanship otherwise the same.

Society News.

Secretaries of camera clubs or photographic societies or associations are respectfully requested to send to Dr. John Nicol, Tioga Centre, N. Y., reports of meetings, copies of papers that have been read before the members, or anything of general interest that they would like to appear in the journal.

THE CAMERA CLUB OF NEW YORK.

The annual meeting of the club was held on Tuesday evening, April 9, for the reading of annual reports and the election of officers and members of the Board of Trustees, and members on Committee of Admission. President Wm. D. Murphy presided. The first proceeding was the voting of the ticket which had been duly nominated. While the tellers were counting the votes the President made a brief address, stating what had been done at the club during the year, and thanked the club for its support in his efforts to effect improvements. The Secretary, Mr. Reid, in reading his report, stated there had been a net loss in the membership of eleven, thirty-eight having resigned, and one having been expelled. The membership on March 31st stood: Active members, 214; non-resident, 83; life, 20, and honorary, 16, making a total of 333.

The Treasurer's report, by Mr. Wm. E. Wilmerding, was prepared on a comparative basis with the previous year, and was very explicit and full. The gross receipts from all sources amounted to \$7,357.87, and expenses, including rent, light, insurance, stationery and printing, postage, etc., \$7,454.62. The balance on hand on April 1, 1900, added to the receipts, left a balance on hand this year, April 1st, of \$2,410.74. Mr. Wilmerding received a special vote of thanks for the excellent way in which he had kept the accounts. Mr. Charles I. Berg, for the Print Committee, reported that several exhibitions of prints had been given during the year. Those contributed by clubs he thought were not, as a whole, quite equal to the single individual exhibits. Mr. Alfred Stieglitz, for CAMERA NOTES, reported briefly the success of that publication; how the cost, the size, and the number printed had advanced, and what a good general effect it had had in interesting the public in the club, and in photography generally. Continuing as editor, he should endeavor to maintain the standard already acquired.

Mr. Beebee, reporting for the Library Committee, stated that much complaint had been made of the ruthless treatment of photographic books by some member

of the club, which was extremely impolitic and annoying. Numerous books had been received during the year.

Following the reception of reports came an unexpected episode of the evening, a presentation through Mr. Champney of a handsome cut-glass punch bowl and standard to Mr. Wm. D. Murphy, the retiring President, which came to him as a surprise. Mr. Champney, in voicing the good feeling of the club members towards Mr. Murphy, stated that one of the latter's best efforts was in successfully harmonizing both sides of the club and old society, when they were finally merged into the present club.

The tellers announced the result of the election, showing an average of 57 to 58 votes for the ticket nominated. Mr. Aspinwall, the new President, was escorted to the chair, and presented by the retiring President with a large sized carpenter's mallet, duly decorated with ribbons. Mr. Aspinwall acknowledged the honor in a few words, emphasizing the statement that he would have no special policy, but as far as any was concerned he would be on the fence.

Mr. Dowdney, the new Secretary, also replied to a call for a speech, that he had nothing to say except he should aim to work for the mutual welfare of the club.

Notice was given of a proposed amendment to the constitution altering the by-laws with reference to the appointment of a nominating committee.

A resolution was offered appointing a committee on formulas, but it was deemed advisable to leave that matter to the board with power to appoint if it saw fit. By another resolution it was decided that an effort be made to secure by purchase the library of photographic books in the possession of Mr. C. W. Canfield.

After passing a resolution of sympathy for the family of the late Mr. H. P. Robinson, Mr. Ferguson was appointed a committee to draft suitable resolutions, then the meeting adjourned at 10 o'clock.

On April 11th Prof. Albert S. Bickmore gave a lecture on "Paris—The Banks of the Seine," illustrated by lantern slides. It was very interesting and instructive.

April 18th, Mr. Cornelius Van Brunt lectured on "Trees, Their Flowers and Fruit," illustrated by his beautiful colored slides, which was instructive and entertaining. Demonstrations were given on Wednesday evenings during the month. April 17, Dr. J. Meyer gave a demonstration on "The Phosphate of Silver Photo Paper." April 24, Mr. Wm. J. Miller demonstrated "Rotograph Paper," and had on exhibition some remarkably fine enlargements.

On May 1st Mr. Juan C. Abel gave a demonstration on Carbutt's well-known Vinco Platino-Bromide paper.

The Print Exhibition of the month beginning April 10 consisted of a selected set of prints from members of the Photographic Society of Philadelphia, which was greatly appreciated, and had the merit of being remarkably uniform in quality.

THE PHOTOGRAPHIC SOCIETY OF PHILADELPHIA.

The annual meeting of the society was held on April 10th. The following are the officers and directors elected: President, S. Hudson Chapman; vice-presidents, Samuel Sartain, Walter P. Stokes; secretary, Edmund Stirling; treasurer, William S. Vaux, Jr.; directors, C. Yarnall Abbott, Prescott Adamson, John G. Bullock, George D. Firmin, Caspar W. Miller, M. D., Charles R. Pancoast, William H. Rau, Robert S. Redfield, William H. Roberts, Anthony W. Robinson, Benjamin Sharp, M. D., Henry Troth.

THE ALBANY CAMERA CLUB.

At the annual meeting of the club, held in April, the following officers and directors were elected:

President, Augustus Pruyn; vice-president, Charles W. Reynolds; secretary, Scott D. M. Goodwin; treasurer, T. L. Carroll; librarian, M. H. Rochester; directors, George H. Russell, Howard P. Moore, R. S. Oliver, L. H. Neuman, S. C. Main, Henry Popp, C. L. Palmer, G. A. Van Allen.

NEWARK CAMERA CLUB.

At the annual meeting of the Newark (N. J.) Camera Club, held on Monday evening, April 8th, the following officers for the coming year were elected: President, F. W. LePorin; vice-president, W. S. Norris; treasurer, Dr. W. M. Goodwin; secretary, C. J. Simoni. The Executive Committee was selected as follows: Henry Eberhardt, W. S. Norris, J. M. Foote, Miles I'Anson, Dr. B. A. Robinson, Robert L. Smith, William Archibald and E. O. Chase.

Answers to Correspondents.

Correspondents are requested to notice that communications intended for the editors should be addressed to Dr. John Nicol, Tioga Centre, N. Y.

A. R. SEDGLEY.—You will learn all that we can say on exposure on page 341 of our number for August, 1900. Exposure tables without the personal equation are of very limited use, but the meters of Wynne or Watkins will tell you all you need to know. We have no hesitation in saying that for one negative that is spoiled by over exposure ninety-nine are rendered worthless from under, and we may add that if you have not learned photography by the use of a camera on the stand, you will never learn it by the employment of a camera in the hand.

R. W. BELL.—Only through your knowledge of the limits of photography do you know that the picture in question has been what you call "faked," and as you admit that only those "well up" could recognize such "faking" there is, in our opinion, nothing objectionable in it. If you are the constant reader that you claim you must know that we have always maintained that not the method but the result is to be considered. The so-called faking is allowable to any extent as long as it is not seen; not in the sense that it is a deception, but because true art is to conceal art. The end justifies the means.

WILL. G. HELWIG.—There is no best developer except in the sense that what you are best acquainted with is the best for you, and especially when you are able to modify it so as to produce just what you want. Your technique being, as we have said, almost perfect, you cannot do better than continue as you have been doing. A record of fact is the reproduction of just what is before the camera, while a picture suggests more than is seen, and conveys to the spectator something of the impression made by the subject on the artist.

W. B. AMES.—Please number your questions in future. Landscapes with trees may be photographed both in sunshine and in shade, it depends on the effect you seek to produce. The time also depends on how you want the subject lighted, but in most cases there will be a lack of desirable shadows if exposures are made with the sun high in the heavens. By "changing the lenses for a long focus camera" we presume you mean using one of the elements of a doublet, and if so, and the lens is symmetrical, that is if both the front and back lenses are alike, all that you have to do is to unscrew the front one and use the back. If they are of different

focal lengths, then you should ascertain which is which and employ whichever you want, that is the one with the focus that suits your subject best. Don't forget, however, that with one of the single lenses the exposure with the same stop will be about four times as long as with both lenses together. In using an exposure meter it should be held in the shade. When ready for the exposure, hold the meter in the shade of your own body and see how many seconds it takes to darken the test paper to the required shade. By "exposing for the shadows" is meant that the exposure should be long enough to give the required detail in the shadows on development. We do not know when the new Wynne's speed list will be ready, but shall mention the fact in the magazine as soon as we know.

R. M. MORRISON.—The cameras you mention are all fitted with lenses of too short focus for pictorial or portrait work, and although each of the elements of which they are composed is twice the length of the combination they are just four times as slow. The largest stop with the doublet is $f/8$, and with either of the single lenses it becomes $f/16$, and requires an exposure four times as long. The camera is merely a matter of taste and convenience, any one being, so far as results are concerned, just as good as another. For the all-round work you want to do we recommend a rectilinear of not less than $7\frac{1}{2}$ inches, and any camera that you fancy with a draw of not less than 10 inches and as much longer as you can get.

H. G. JONES.—(1) "Reflex" cameras are described in this month's issue. You will find them described and illustrated in the trade catalogue, the "Photographic Encyclopedia," issued by A. J. Lloyd & Co., of Boston. (2) We cannot say what the exposure should be under the conditions named, the factors on which they depend being so variable; but may say that we are now developing exposures made last August on just such scenes, and with $f/22$ they varied from one to three seconds—equal to one-half of those with $f/16$. You should get a Wynne's or Watkin's exposure meter while you have such difficulty in hitting the right thing, and if you do, we advise you to give your plates about one-third longer than they indicate. We doubt, however, that your negatives suffer from

under exposure, and shall be glad to see some of them, or rather the prints from them. (3) So far as we know, the Seco film has not been imported into this country, and none of our plate makers have been enterprising enough to secure the right to make it. (4) In criticizing and reproducing pictures we do not enquire or care how they were produced. The technique of photography is so simple and so fully dealt with in the many textbooks that our readers would not thank us for taking up space that might be better employed with it. (5) The working apertures of the lens referred to is 5.6, and the same stop with the single lens of twice the focal length of the combination would be, as you say, $f/11$, but it will not work at that rapidity, and must be stopped down to $f/16$, which will be $f/8$ of the combination. (6) In developing for contrast the solution should contain a larger proportion of bromide and of reducer, and for softness and detail *vice versa*.

W. H. BLACAR.—The "Artistic Temperament" is as necessary for the true appreciation of a picture as it is for its production. In the one referred to the objective point is not any particular thing represented, but the impression it produces as a whole; the sympathy that is manifested between the lower and the higher animals. A picture is not valued according to what is actually in it or how its material is put together, but according to the impressions it makes on those that study it. We do not "retouch" the prints that we reproduce, but have no objection to whatever work their authors may do either on the negative or print so long as such work is not pronouncedly visible. The photographing of snow scenes is so little understood that up till now we have had only one worth reproducing, and it may appear in this number. Snow scenes without shadows are of little value, and unless exposures are long enough to give some detail in them the result is worse than even the ordinary "soot and white-wash."

GEO. L. MORLEY.—Neither of the patents you mention are worth the paper they are written on. An auxiliary objective of the same focal length as the lens used, and an additional focussing glass, the former placed above the lens and the latter over the camera back, is as old as the mist. Not quite as much

can be said of a mixture of aluminum and potassium perchlorate for flashlight purposes, but such a mixture has certainly been in use long enough to invalidate any patent that may now be granted for it.

JOHN KING.—Your method in making negatives from engravings for lantern slides is probably as good as any, but the result is wanting in contrast, the whites are too gray and the blacks not black enough. The smoothest paper has grain, and where the lighting is all from one side the grain shadows on the off side tend to a gray result. It is just possible that your lens does not give what is called "black" definition with a large stop, and it might be better to work at $f/22$, giving the necessary exposure, four times that required with $f/11$. The front element of the portrait lens is a plano-convex, or it may be very slightly meniscus, and the convex side faces the subject, the plane or slightly concave side facing the stop. The back lens consists of a crown "crossed" double convex, that is, with one side a little more convex than the other, and a flint concavo-convex separated by a ring. The convex side of the flint is placed next the stop, then the ring, and then the crossed lens with the greatest degrees of convexity toward the ring and the side of least convexity outside or next the ground glass.

WM. GRAHAM.—It is not worth your while to try to "make a spectacle lens of good focal length," as you can buy one for a few cents. From almost any dealer in optical goods you can get a spectacle lens in the rough, that is, just as it comes from the polishing frame, without having been cut to the usual oval and the edges ground. They are generally kept in stock of focal lengths from, say, two inches to twenty inches, and you should get one at least twice the length of the longest way of the plate

you mean to use. It is not necessary to grind the rough edges, although it may be well to draw a line of black varnish so as to cover the rough parts.

C. H. WILKINS.—We are surprised to know that the print referred to was on "glossy vinco," as such a poor bluish, mealy result is not its characteristic with anything like proper treatment. We cannot say what was the cause without knowing your *modus operandi*, but would suggest experimenting with modifications both in exposure and development.

CLARK THOMAS.—We hardly know what you mean when you say that "on looking over some of my negatives I find that they have been dissolved by the intensifier, and some of them are fading in spots." In intensifying by mercury and sodium sulphite, if the latter is too strong or allowed to act too long, the negative is apt to be reduced rather than intensified. Those that are fading may be re-intensified, but the blackening should be done by the ordinary ferrous oxalate developer. The discolorations you mention are likely to be a result of insufficient fixing, and we know of no method for their removal. You might try a weak solution of potassium cyanide, but use it with caution; it is a very active poison.

HERMAN CARMICHAEL.—To explain the phenomena of reversal would occupy more of this space than we can afford, but we may devote an article to it in an early number. The reversal in the windows of your print is the most perfect that we have seen, and as the exposure was only four minutes the plate must have been very thinly coated. The absence of halation around the windows is easily accounted for, as it disappeared along with the first deposit made on the glass, leaving the less impressed interior untouched.

OURSELVES.

WICHITA, KANSAS.

AMERICAN PHOTO PUBLISHING CO.

GENTS:—I find great pleasure and much profit in your magazine. It is superior to any I have seen for an amateur who is interested in producing pictures, rather than mere photographs.

L. W. CLAPP.

This is one of many such letters we are constantly receiving. Our cordial thanks are due all our subscribers for their substantial support and appreciation. During the year many new features will be introduced into our pages. We offer a rare and valuable premium for *new* subscribers, and special inducements to agents. Write for particulars.

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JUN 24 1901

No. 1240.

"A MOMENT'S REST"
BY
E. G. FOUNTAIN

THE AMERICAN AMATEUR PHOTOGRAPHER.

VOL. XIII.

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NO. 6.

The Shutter, the Stop, and the Exposure Meter.



No. 1244.* By E. M. Hulbert.

"SYLVAN AUTOGRAPH."

It is true that, for pictorial purposes, there is considerable latitude in the exposure of the modern dry plate; and it is equally so that to a certain extent, under and over exposure may be compensated for by suitable development. With what is known as "record of fact," a not less important phase, it is different. Here technique is the aim, and the keynote to perfect technique is correct exposure.

While it is true that many possess the ability of knowing as if by intuition just what the exposure ought to be under almost all conditions, such power is acquired only through much experience, and those who have it not must depend on the information given by one or other of the various excellent exposure meters. But however accurate the exposure meter may be (and we have found both the Wynne and the Watkins thoroughly reliable), the accuracy of the result is dependent on the accuracy of the stop and the shutter.

* 1244. E. M. HULBERT.—"Sylvan Autograph." a boy carving his name on the trunk of a tree, is hardly a picturesque subject, made up as it is of nothing but vertical lines; a vertical tree and a vertical boy in the foreground; and nothing but a series of thin vertical lines in the distance. Nor is the technique better than the arrangement, ground and sky being nothing but white paper. But in spite of that it is a suggestive picture, conveying very well the feeling of a bleak wintry day, only needing footsteps in the snow to make the idea perfect; the greatcoat, with its turned-up collar, and the fine hazy atmosphere helping wonderfully. But you should look after little things; the letters that he is pretending to carve are blackened by age.

The shutter, the stop, and the exposure meter are interdependent, so that correct exposure can be secured only where all three are true to their face value. Regarding the shutter, one of our correspondents writes: "Ananias was a paragon of truthfulness compared with the photographic shutter relation to their speed markings. I have three shutters, and they are the most 'brazen liars' that I have ever seen except the ———, and it is a wooden liar." The stops of modern lenses, at least those of American and British manufacture, whether iris or waterhouse, are marked either in their f/x values or according to the U. S. system, and if it be true, as declared by the late Professor Burton, that lenses listed as of the same focal length varied from a quarter of an inch up to two inches, and that the stops are cut and graduated all to one scale, some of them must be considerably out. On careful measurement of the stops of a lens sent for examination, a rectilinear by a good maker, we find $f/8$ to be 9.7, $f/16$.

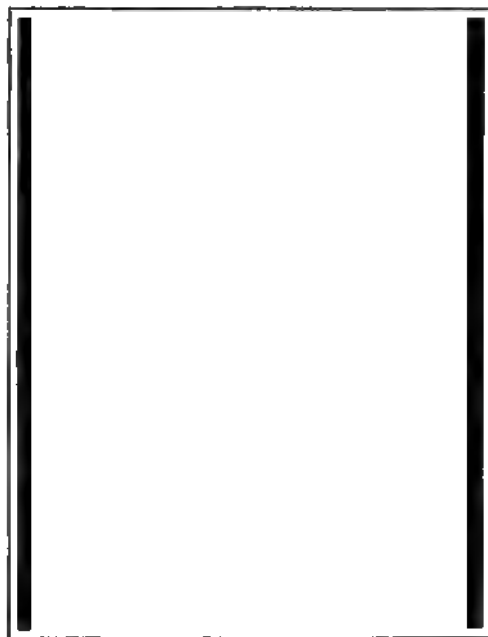
17.5 and $f/22$, 24.3, discrepancies of little consequence in pictorial work, but more or less inimical to perfect technique. Successful employment of the exposure meter, supposing the stop and the shutter to be correct, is dependent on the correctness of the speed list; with the Wynne instrument, the f/x value given to the plate. That this is not always correct we have had ample evidence, and even although they may, in the case of one particular batch, they *may* vary in another. Makers do their best to keep their plates close to their markings, or to mark them according to what they show in their tests, but emulsions have ways of their own, and he who aims at perfect technique must see for himself that the shutter, the stops, and the plate speed number are correct; how to do so being the object of this and succeeding ar-

No. 1243.* By Mrs. T. D. Van Dervort.

"TURNING THE LEAVES."

* 1243. MRS. T. D. VAN DERVORT.—"Turning the Leaves" is photographically very good and so also is the posing of the figure, except for the placing of the hand behind the back, but that suggests the amputation of the hand above the wrist. Then, the fact that there is no indication of the player conveys all too strongly the knowledge that the figure has been posed to be photographed. It is incomplete, only a half of the suggested picture, and so far unsatisfactory. The technique and arrangement, so far as it goes, is very good, and if the figure had been engaged in something that did not leave a vacant place that so obviously should have been occupied, it would have been excellent in every respect.

titles. As the basis of such examination and testing is the focal length or the equivalent focus of the lens, that should be first ascertained. For this purpose there are various methods, all more or less convenient and all near enough for practical work, except perhaps the simplest of all, focusing a distant object and measuring the distance between the ground glass and the stop or stop slit in the mount. With some lenses this would be correct, but generally it is not to be trusted, at least for testing purposes. One equally simple where the camera has a long enough draw, at least twice the focal length of the



No. 1233.*

By D. H. Swiler.

"THE FAGOT GATHERER"

lens to be tested, or where that lens can be temporarily fitted into a camera sufficiently long, is to focus an object the size of itself, say, a strip of printed matter six inches in length, so as to be six inches on the focusing screen. Measure the distance between the object and the image on the ground glass and divide by four, the result being the focal length of the lens. In the absence of a camera of sufficient length the next in convenience is the method devised by Grub, which along with some others, we shall describe and illustrate in our next.

The besetting sins of some of the "New School" photographers are the mistaking of eccentricity for originality and the decrying of the rules of art that have stood the test of time, as fettering the genius that they do not possess. Sir Joshua Reynolds says: "They are fetters only to men of no genius; as that armor which upon the strong becomes an ornament and a defence, upon the weak and misshapen turns into a load, and cripples the body which it was meant to protect."

*1233. D. H. SWILER. "The Fagot Gatherer" is a somewhat hackneyed subject, although this differs considerably from most of those that we have had. Subject and arrangement are good, but surely you must know that the trees were not nearly so dark as you have reproduced them or the water not nearly so white, much whiter indeed than the sky, from which only it could have had its light. The atmosphere in the distance is admirable and if you had given sufficient exposure you would have had a fine picture.

Specialism in Photography.

BY H. BURN-MURDOCH.

THIS is the age of specialism, and to it we are mainly indebted for the great advancement in almost every direction during the latter half of the last century. And it is as necessary in photography as in any other branch of science or art.

It has been said that individuality in pictorial photography is secured by the photographer emphasizing such parts or objects in a subject as most appeal to him, and subordinating all else; and it follows as a matter of course that his best results will be with subjects in which those parts and objects are most pronounced. Our likes and dislikes are not altogether under our control, nor can we tell why it is that a group of cattle or sheep browsing on a hillside or sheltering from the noonday sun under the shade of a tree appeals to one, while another is interested only in the character studies of those who tend them.

That he that is a jack of all trades is not likely to be a master of any one, is as applicable to photography as to other branches of art or trade; and he who would excel should select one or other of its various phases and stick to it. Of what that phase should be he himself should be the best judge, as although his surroundings, his position in life, the conveniences, may all more or less influence the selection; the controlling influence must be his own temperament; he will succeed best with that in which he most delights. Nor do *opportunities* count so much as some are inclined to suppose, as while the studio may be more convenient for portraiture and even *genre* studies, quite as good work can be done in both branches in an ordinary room, or even in the open. We are too apt to think that if we had the facilities of some of our more fortunate brethren we could do as well as they, but "where there is a will there is a way" is as true in pictorial photography as in any other branch of human industry.

To those who take to photography as a mere pastime, and who are content with simple "record of fact," I have nothing to say except that such records are not only interesting but often valuable, and give pleasure to others besides themselves. They will generally prefer the hand camera, and unfortunately, in the hand; but they should never forget that in nine cases out of ten, good results can only be got by time exposures, and by the camera on the stand, even with the more modern lenses working at about $f/5$, twice the rapidity of the rectilinear.

Those who take photography seriously, and aim at picture making, may make up their minds once for all, that the cases are few and far between in which a composition can be studied and arranged by an examina-

"AUTUMN"
BY
HERBERT F. SMITH.

tion of the subject in the finder, or a sufficient exposure given with the camera in the hand. Whatever phase of the art may be adopted, the image must be studied on the ground glass; focused with a view to the emphasis and subordination already alluded to; and, with the stop most suitable for the desired atmospheric effect, exposed accordingly; that is, so as to give the necessary detail in the shadows.

There is a wide field from which to choose. Portraiture, perhaps at the top of the list; but undoubtedly most difficult of all. *Genre*, hardly less exacting and more generally interesting as active human nature always is; landscape with figures and

No. 1248.*

By ROBT. FARIES.

THE GAME STALKER."

figures with landscape, each different from the other and both requiring much careful study and thought, especially as to the suitability and placing of the figures. Street scenes as pictures of everyday life; marine subjects, with the ocean or the lake in all their moods, and the happy combinations of the always interesting fisher folks, and the, to some at least, equally interesting yachts and yacht racing. Architecture also offers great opportunities, although in this country not so great as in some others, and last, although perhaps not least, flowers and flora generally, although generally classed as the lowest phase of art, have brought fame to some and may do so again to those who really love and know how to arrange and photograph them.

Whatever phase may be selected it should be stuck to, and studied in all its bearings. Especially should the artist make himself acquainted with all that he possibly can of what has been done before in that line; examining and analyzing the work that pleases in our picture galleries and in the higher class magazines, not with a view to copy it, but to become so saturated with it as to form a style of his own by which his work shall be recognized as unmistakably his.

*1248. R. FARIES. "The Game Stalker" is a fine subject excellently selected, although it would have been better had the head of the figure not been quite so close to the tree. The only real fault, and it is very serious, is the perfectly white sky and equally white dog. They put the whole out of harmony. A longer exposure would have enabled you to develop all you have got in the shadows without blocking up the sky and dog.

A Quite Common Fault.

BY HARRY B. MASON

AS I write I have before me fifteen landscape prints sent in by a friend for purposes of half-tone reproduction. In the main these show evidence of marked art sensibilities. With one or two exceptions they are admirable in composition; they are excellent examples of good judgment in the selection of subject; and they are tastily trimmed and mounted. But, alas! nearly all of them have great white masses and are extremely faulty in tonal values.

This is a fault of such frequent occurrence as to call for an occasional word of caution. No one needs to be told that there are no absolute whites in nature; and certainly if there be none in nature there should be none in the photographic print, for this is, or should be, a representation of nature. A painter will never be found putting white into his pictures. Oftentimes there are light patches in a painting which appear to be nearly or quite white, but when these are compared with a pocket handkerchief, or a piece of paper, it is quickly seen that they are in reality far from it.

But white in a photographic print is not only entirely untruthful and unrepresentative; it is faulty and objectionable for other reasons. A picture which has masses of white on one hand, and, on the other, the masses of black which are usually correlative, is not pleasing to look upon, however pretty the subject, or skillful the composition. Such a picture does not give the pleasure afforded by soft tones that are so beautiful in themselves. There is exactly the same distinction here as that which exists between loud, discordant, jangling music, and the sweet, delicious tones of harmony and melody.

Finally, these white and black masses in photographic prints are faulty in that they scatter the attention. The attention of the observer should be concentrated on whatever may be the central idea or purpose of the picture, and a patch of white, or one of black, diverts it and calls it away, just as too many accessories in a

portrait distract and scatter the attention. If there is a mass of white staring out at the observer from a picture this is the first thing that he will see—and I might say the last thing also.

These whites and blacks in photographs are due to faulty technique—usually to a lack of skill in developing. A developer which contains too much of the No. 1 solution will cause such results; and underexposure of the plate will do the same thing. Amateur photographers who find these strong contrasts in their prints should either give somewhat longer exposures, or they should use more of the No. 2 or alkaline solution in their developers. Perhaps they will need to do both of these things. At any rate, they should realize that white, or anything approaching closely to it, is a thing to be avoided in a photograph; that it is unnatural, untruthful, and undesirable; and that it is to be prevented or overcome by necessary corrective measures.

Toning Bromide Prints with Cupric Ferricyanide.

(Reported on behalf of the Technical Committee of the Photographic Society of Philadelphia, by W. S. Vaux, Jr.)

WHILE the toning of bromide prints with ferricyanide of copper has been practiced for some years, its use has not become common, and probably few are aware of this easy means of obtaining a variety of very pleasing tones. The results are similar to those obtained by the use of salts of uranium.

The print to be toned should be developed, fixed and washed in the usual way, but care should be taken that the final washing is thorough. On placing the print in the toning solution a gradual change in color takes place, first to black, then warm brown, purple, and finally deep red. During these changes a slight diminution in density takes place, but unless the final red tones are desired it does not appear necessary to make the original prints of special density. When the proper tone has been obtained the print is well washed and dried.

While several formulæ have been published the following gave very satisfactory results when diluted with from three to ten parts of water:

Citrate of potassium.....	250 parts	10% solution
Sulphate of copper.....	35 "	" "
Ferricyanide of potassium.....	30 "	" "

Add the solutions in the order given and use promptly.

The set of prints made from the same negative and originally the same color show the range of tones. It will be noted that the blacks and browns closely resemble platinum prints.

"TWO LITTLE WANDERERS."

BY

WILL. G. HELWIG.

No. 1231

1231 WILL. G. HELWIG. "Two Little Wanderers." The subject and arrangement are better than the photograph, and the fault, as usual, is insufficient exposure. A winding path leads to a home on the left of the middle distance, well balanced by a group of trees on the right, and on the path, just in the best place, two little toddlers wending their way home. But the path is as white as the sky above it and the trees supply dark lines without a suggestion of roundness or relief. The sky also suffers from the same fault, too white where uncovered by cloud, and the irregular masses of cloud all too dark. This gives a topheavy feeling to the picture which might easily have been avoided. With a longer exposure and a less pronounced sky you would have scored a decided success.

What is Your Goal?

BY JAMES THOMSON.

BY the time this reaches the eye of the readers of THE AMERICAN AMATEUR PHOTOGRAPHER those who had laid aside their cameras for the winter will be bringing them into commission for the summer campaign, some with a distinct object or phase of photography in view, and with a fair amount of success; some dealing equally and with equal efficiency with all sorts of subjects; and some, probably a large majority of the whole, taking to photography for the amusement of the hour as a child takes to a toy.

The highly favored ones with the artistic temperament need no advice. They will fall naturally into their proper groove and, with success proportionate to their endeavors, gain the approbation of those equally favored and help to raise the standard of pictorial photography. Nor need anything be said to those to whom photography is merely a

No. 1247.* By C. A. Richardson

"A BUNDLE OF MISCHIEF"

source of amusement, the great army of button pressers. Like Kipling's Kim, they are each the "friend of all the world," who by their great demand keep filling the pockets of the makers and dealers and enabling them to reduce the cost of both apparatus and material to an extent that without such demand would have been impossible.

To those not blest with the artistic temperament, and whose highest aim is to employ photography in the record of fact with as much of the picturesque as is possible by simple selection, I would respectfully urge the lantern slide as a goal. The making of negatives for the preparation of lantern slides has many advantages, only four of which need to be mentioned to induce those who appreciate them to take it up. (1) Only a 4 x 5 or even a 3 1/4 x 4 1/4 outfit need be employed, with all its economy

* 1247. C. A. RICHARDSON "A Bundle of Mischief" is a "home portrait" of a little girl who looks more wise than mischievous, the expression on the pretty face being that of amusement and gratification with the part she is taking in the play. It is more than fairly good, and with a little more careful thinking out, might have been very much better. The main fault, contrary to your belief, is under exposure; what should have been shadows with shadow detail, the inside of the right hand and the outside of the right arm, for instance, being simply black paper. This under exposure and the necessary forcing of development to get what detail there is on the darker side of the face has resulted in making the lighted side, including the lighter parts of the dress and the hands, in the negative opaque, and in the print white paper without a trace of the desirable and absolutely necessary texture. The same exposure with a reflector to light up the shadows and the consequently shorter development might have been just about right, or the same exposure with the stop next larger and the same lighting, or the same stop and the same lighting, but with three or three and a half seconds, instead of two, would have given you a very much better picture. The only other fault is the too white background, and the lack of atmosphere between it and the figure, but with true values, that is correctly rendered gradation, that would have been obviated.

both of strength and outlay. (2) The making of slides by contact printing affords delightful occupation during the long winter evenings: not necessarily in the dull light of the dark room, but if so desired, with an ordinary lamp covered with yellow paper in the ordinary sitting room surrounded by the family circle. (3) And then, the result. Not a mere paper print with its all too short gradation, but, without exception, the finest outcome of the camera, a transparency on glass with, if everything is as it should be, every degree of gradation that was in the negative; and not only to be held in the hand and examined one by one, but that can be placed on the screen and shown to the delight of as many as can be gathered together. (4) And last but not least: the negative best suited for slide making is equally suited for making enlargements. Enlargements may be made either by the lantern used in showing the slides or in any one of the many ways known to photographers, and the photographer who has a lot of good slide negatives may also at a little cost decorate his own home or that of his friends with pictures of any desired size.

The essential qualities of a negative from which slides are to be printed by contact are true tonality, perfect gradation, and the greatest possible sharpness, and that the amount of subject intended to be included in the slide shall be included within a square of about three inches. To secure all these the camera should have a focusing screen with a three inch square marked in its centre, and it should always be employed, not in the hand, but on the stand. In the selection of the stop the photographer will be guided by the effect at which he aims, but in any case the objective point or principal objects must be as sharp as the lens will make them, and the exposure should be full, so that the necessary shadow detail shall be sufficiently developed before anything but the highest of high lights become opaque.

If he who means to make slide making his goal has been in the habit of snapping he should begin by unlearning much that it has taught him. He must learn that there are a few whites or blacks in nature, and that they must be as few in the slide, his negatives must include little, in most cases none, of either opacity or bare glass. That nothing short of sufficient exposure will give true values, and that he must develop for detail and gradation rather than contrast.

No. 1246.*

Mrs. G. W. Fry.

"IN SUMMER TIME."

* 1246. Mrs. G. W. Fry. "In Summer-Time" is a good subject well arranged except for a little too much foreground or rather forewater. Half an inch trimmed from the bottom would be an improvement, and it would have been better still, if the point of view had been such as to include in the foreground a little of the road leading to the bridge. The photography is also at fault. The print is too uniformly gray, too wanting in contrast; water, where the light falls, the rails and supports of the bridge, and the sky, are all of one equal gray tint; while everything in shade is equally uniform, a half-dark. A little more care in the adjustment of the relation of exposure to development or *vice versa* would have given a much better result. A minor fault, although it is mainly a question of taste, is the printing under a mask with rounded corners which always suggests to us an old-fashioned teatray. Square corners are always more effective.

Glasgow (Scotland) International Exhibition.

FOR the first time in the history of the greater exhibitions photography, as a means of producing works of art, has been honestly recognized and given a gallery to itself in a fine art building. And the photography at the Glasgow International Exhibition was well worthy of it. Our British exchanges are unanimous in declaring that the 500 photographs collected by J. Craig Annan from Britain, America, France, Holland, Germany, Belgium, Russia, Italy, India and Switzerland are as a whole finer than was ever before brought together and should settle at once and forever any question as to photography's position among the arts.

The work of the various nationalities are grouped together, and give unmistakable evidence of the various "schools," each having its own peculiar characteristic; French, according to the *Photographic News*, beautiful and *chic*; German, massive and strong; American, intellectual and poetic; while the British, which is especially strong in landscape, is formed on more academic lines, and follows the traditions of the art of that country.

Speaking of the American contribution, the *News* says:

"America is strong, and Alfred Stieglitz must be congratulated on the magnificent selection he has sent. To mention one of his own first, "Winter, Fifth Avenue," portrays, in a manner we have never seen equalled, drifting snow, while the whole atmosphere breathes of winter. Gertrude Käsebier has many fine pictures on show, and it is difficult to select one for special notice. Perhaps, however, if a selection must be made, "The Manger" would be our selection. The picture represents the Virgin Mary with the Infant Christ in the stable at Bethlehem; the surroundings are homely, but the whole subject is treated with a reverence devoid of a single jarring note. There is a softness in the picture, and an entire absence of any harshness, while the roundness of the figures is in no way impaired; the beautiful flowing lines of the figure and the general composition and treatment, in spite of the surroundings, portray the loving tenderness of motherhood. In the writings of Joseph T. Keiley we recognize the pen of a ready writer, but when we come to look at his pictures we must confess we are somewhat at sea. Probably the artist or author—use whatever term you prefer—has some aim in view in his tremendously out-of-focus work, but we fail to see it; probably it may be the ignorance of the onlooker—his "pictures" may be only intended for the "culchawed," but for our part we much prefer his writings. Clarence H. White, it is almost needless to remark, shows much meritorious work; we were particularly struck with his "Spring." The picture is arranged as a triptych, and portrays a female form divine amid the glories of a blossom-laden orchard; the whole theme is sympathetically treated, and breathes the radiant softness of spring. Those who have read the superlative writings of Sadakichi Hartmann will be interested in seeing the portrait of the High Priest Enthuse, by Tom Harris: it is hardly what could be called prepossessing.

Charles I. Berg has a beautiful miniature of a nude figure, "The Bath," on exhibition. Prescott Adamson has a grimy subject, realistically rendered, in "Mid Smoke and Steam." Rudolf Eickemeyer, Jun., shows, amongst others, "The Sheep Path Through the Pasture." Those who have only seen a half-tone reproduction of this can form no idea of the glorious wealth of tone embraced in this picture, nor the skilful treatment of the lighting. F. Holland Day is probably seen at his best in that powerful picture, "Armageddon," showing artistic grouping and flowing lines in the composition; the frame, brass, is novel, and suits the picture well. Miss Mary Devins, a name new to us, has some fine work, "Study of Youth" being equal to rank with the best; while "Aunt Howe" is reminiscent of the old masters. Edward J. Steichen is well represented with many fine pictures, perhaps his best being "Landscape—Winter," a wintry—real wintry—rendering of a winter scene. Frank Eugene has a graceful study of a nude figure, "La Cigale": it might well serve as an example for a

No 1235.*

"THE CALM THAT PRECEDES THE STORM"

By F. P. Tolles.

* 1235 F. P. TOLLES, "The Calm Before the Storm," was noticed as 915, but then had a bald-headed sky. A suitable sky has been supplied, and of a kind that has considerably lessened the evil of the under exposure from which the negative suffered by conveying the idea of a dark, lowering, instead of a bright sunny day. The picture is very much improved, but has been so carelessly trimmed as to place the horizon at a considerable angle. We reproduce it as one method of turning an under exposed negative to account.

"READING."
BY
H. W. SCHONEWOLF

No. 1025.

See November, 1900, Portfolio.

study in curved lines. Eva L. Watson has a bonny picture in "The Rush of the Flags"; while once again we have winter. bleak and drear, in W. B. Post's "Intervale in Winter"; but space again calls a halt. We will only mention a few more names in the American section—Zaida Ben-Yusuf, Frances B. Johnston, Mary R. Stanbery. John E. Dumont, Rose Clark, Elizabeth Flint Wade, and Yarnall Abbott. These all combine to form a representative and notable section.

Words From the Watch-Tower.

BY WATCHMAN.

TAKING advantage of the opportunity. Sharp practice in business matters is not altogether confined to this country, as will be seen from the following account of how an amateur photographer, who was also a municipal official, managed to increase his income: "Torquay Borough Council have been discussing a question of amateur photography under municipal auspices. It appears that the meteorological observer—an official of the Council—placed a young assistant in charge of one of the recording stations, and the latter turned part of the building into a photographic studio, and drove a good trade with visitors who called. The Mayor said it had not yet come to municipalizing photography, though he did not know how soon that change might come about. Pending its arrival the assistant to the borough official has been requested to discontinue operations."

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An amusing article could be written on the blunders made by the newspaper man and the story writer whenever they attempt to deal with photography.

The latest is by Charles Sloan Reid, in *The International*, where a gentleman was killed by a bullet fired apparently from a bronze bust at one end of the room in which he sat in conversation with two friends. For a time the mystery seemed insolvable, till a medico with a penchant for detective work made it as plain as a pikestaff. Adjoining the room in which the murdered man and his friends sat, and entering from it by a door above which was a transom, was the laboratory. Through this transom the shot had been fired by one expert enough to cause the bullet to ricochet from the bust and reach the desired spot; and to enable him to do so the assassin had stood on a table so as to bring his head on a level with the transom.

As evidence in favor of his conclusion the amateur detective pointed to a mark on the bust made by the bullet, and, more convincing still, showed a photograph of the assassin in the act of firing. The murdered man had been experimenting with color photography in the darkened laboratory, *and had left two plates exposed on the table.* The flash from the pistol had been sufficient to impress a latent image, which on development placed the matter beyond a doubt.

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It is an ill wind that blows good to no one. The disappearance and sometimes difficulty of catching defaulting cashiers of banking and other establishments has already begun to do good to photographers, and if the action of the First National Bank of Chicago is to be followed by all the banks of the country, it will give them a large quantity of additional and probably well paid work. According to the *Chicago Record-Herald*, the directors of the First National Bank have decided, for obvious reasons, to keep an album in which will be placed the portraits of every one of their 400 employees, from the youngest message boy upwards, and that they have been furnished with coupons which are being honored by one of Chicago's principal photographers as fast as he can give them sittings. That is one kind of coupon business that no photographer will object to.

Notes.

HAND CAMERA EXPOSURES.—In reading the accounts of successful hand camera work that come to us across the water, and comparing them with the hundreds of hand camera results that come to us from this side, we are sometimes fain to think that our British and other confreres are blest with faster plates than are given to us by our makers here; but the following extract from an article by that well-known authority, the Rev. F. C. Lambert, in *The Amateur Photographer*, sets our mind at rest.

"Under-exposed and over-developed"; this is the true verdict which should be pronounced on perhaps three out of every four hand camera negatives. The error of over-development is to a large extent due to the widespread but very misleading notion, viz., that *prolonged development will bring out the details.* To put this fine, crusted, old delusion in other words, it is equivalent to saying that prolonged development compensates for, or is equivalent to, exposure. The hungry schoolboy is sometimes told that the thickness of the bread compensates for the thinness of the butter, a maxim which sounds all right, but is not easy to swallow.

A SIMPLE STEREOSCOPIC CAMERA.—A. G., in *Photography*, gives the following method of making a simple stereoscopic camera that will answer the purpose admirably, and although the pictures may be small they will be effective: "Take two little Brownies of five shillings each, strap them very tightly together, and it is complete. Choose a good foreground subject with figures, and take your two snapshots at precisely the same moment. As one has to be careful to place the right-hand photograph on the right hand of the mount, it simplifies matters to have two boxes labelled 'Right' and 'Left,' in which to put away the exposed spools, and then in all the processes of development and washing to keep the two separate. In printing, write 'Right' and 'Left' on the back of the paper, and then no mistake will be made in mounting."

THE PERPETUAL LAMP.—Is the myth of the "perpetual lamp" about to be realized? M. and Madam Curie, who some time ago discovered radium, have evolved from it a new gas of great phosphorescent brilliancy, sufficiently permanent to remain brilliant for months. At a recent meeting of the Academy of Sciences M. Becquerel brought the matter before the members, saying that a few cubic inches of the gas had remained brilliantly glowing for months.

A NEW LENS.—From a notice in *The British Journal of Photography*, and from a list of British patents, we learn that a lens is about to be put on the market that for speed will be far, far ahead of anything of the kind hitherto thought of. All that, so far, we know of it is that it is the invention of a Dr. Grun, of Brighton, England, that it is a fluid lens, and that it will have a working aperture of $f/1.5$, and even $f/.8$, something like sixteen times faster than the fastest lens ever offered to the photographer. Should any of our readers want to communicate with the inventor, a letter addressed Dr. Grun, The Hall, Southwick, Brighton, England, will reach him.

A COMMON DELUSION.—G. Hammer Croughton, in a contemporary, has the following good hit at a popular delusion. Speaking of dealing with white drapery he says: "The average photographer has an idea that because a dress is white he has to give a short expose, in the way most amateurs deal with snow pictures, because the snow is white it must need a short exposure. Nothing of the kind. My experience has taught me that if I want to get a proper representation of either white drapery or snow landscape, I must give a full exposure and manipulate my development accordingly, which means that I commence development with the normal amount of pyro, but about one-fourth of the normal amount of soda-carb., and guard against getting the intensity too great by adding

more accelerator if I see the deposit upon the high lights getting too opaque before the shadows are out.

TANK DEVELOPMENT.—Herr Kastner, in the *Photographische Rundschau*, says metol is best for slow or tank development, and that the following formula answers admirably: Metol, 5 grammes; sodium sulphite and carbonate, 5 grammes each, and water, 2,000 c. c. Grammes and cubic centimeters may be taken as parts; or the following will be found near enough: Metol, 5 grains; sodium sulphite and carbonate, each 50 grains; water, 40 ounces. We have tried it and find it quite as good as any formula that we have used. Various brands of plates seem to require different times, and all need enforcing either by a stronger developer or by intensification, but when exposure has been anything like sufficient the results from all were satisfactory. We refer only to hand camera exposures, from which, as a rule, we do not expect too much, as when we want pictures we always employ the camera on the stand.

ILLINOIS COLLEGE OF PHOTOGRAPHY.—Effingham had a gala day, we learn from the *Evening Democrat*, published in that town, when the students of the college and their friends held their first "Tree Day," choosing the long-lived, hardy and stately elm as typical of their aims and ambition. We have from time to time noticed the growth and progress of this institution from a small business affair helping a few men and women to fit themselves to make a living by photography, till it has surrounded itself with much of the atmosphere of a university, including the "college yell" and the enthusiastic love for their alma mater carried away by its students.

COLOR PHOTOGRAPHY has been once more discovered, this time by a Swiss, and by an accident that it took several years to bring about; at least so says the *Baud*, the most serious paper in Switzerland. Adolphe Gartner, a Berne amateur, is the lucky man; and his pictures on paper, porcelain and glass are so true to nature that "a famous firm in Paris are sending down a representative to try to buy the secret." The only thing that we know so far, is that "it is all in the bath," and we may add that it is likely to remain there.

SECCO FILMS, of which we have spoken so often and of which we expected so much, have come to grief, or rather the British company formed to exploit them is being wound up. Insufficient capital is said to be the cause, investors in previous photographic syndicates seeming to have given evidence that "burnt hairns dread the fire."

THE PHOTOGRAM.—We are requested to give notice that the office of this always interesting magazine has been removed from Farringdon ave-

nue to Effingham House, Arundel street, Strand, London, W. C., where the editors tell us that they have the fastest running elevator that has as yet found its way to London. Should any of our readers be in that great city and want any information photographic, they will find a hearty welcome at Effingham House.

TO CONVERT METRIC WEIGHTS AND MEASURES INTO ENGLISH, AND VICE VERSA.—As formulæ are now so frequently written in the metric system the following method of converting the one into the other, given by Mr. Bothamely in *Photography*, may be found useful. The results, although not quite accurate, are near enough for all practical purposes:

To convert grains per ounce into grammes or cc. per litre we reverse the process, and multiply by 100 and divide by 44 (or multiply by 1,000 and divide by $437\frac{1}{2}$, if we need to be very exact). Decimally we *divide* by 0.44 or 0.4375, as the case may be.

Grammes (or cc.) per litre (1,000 cc.) into grains per ounce—Multiply by 44 and divide by 100.

Grains per ounce into grammes (or cc.) per litre—Multiply by 100 and divide by 44.

To convert grammes into grains *multiply* by 15.43.

To convert cc. into fluid ounces *divide* by 28.35.

To convert grains into grammes *divide* by 15.43.

To convert fluid ounces into cc. *multiply* by 28.35.

STRIPPING NEGATIVES.—The following method of stripping negatives was recently brought before the Photographic Society of Lille: The negative, if dried, should be immersed in water till soft, then plunged for about ten minutes in the following bath:

Water	100-150 parts.
Formaldehyde à 40 %.....	10 parts.
Glycerine	2-6 parts.

And then, without rinsing, allowed to dry. When thoroughly dry, with a sharp knife the film should be cut round to within two millimetres of the edges of the plate, and then immersed for ten minutes in a 20 per cent. solution of carbonate of potassium or sodium, allowed to drain, and then, without washing, immersed in a 5 or 10 per cent. solution of hydrochloric acid. A copious production of carbonic acid takes place between the gelatine film and the glass, and it is therefore easy to float the film off. The advantage of this method over that with fluorhydric acid is obvious, as the latter is so prone to attack the nails. This process is equally applied to collodion negatives if a gelatinized paper be squeegeed on to the film.

IN the special issue of postage stamps to advertise the Buffalo Exposition, the Post Office Department has done honor to the New York Central Railroad, the greatest mail carrier in the world. The one-cent stamp represents the lake navigation with which the Central Railroad connects; the two-cent stamp, the famous Empire State Express train; the four-cent stamp, the automobiles used in the Central Railroad cab service; the five-cent stamp, the Niagara Falls bridge, past which the Central trains dash; the eight-cent stamp, the locks at Sault Ste. Marie, through which the Central Road steamers pass, and the ten-cent stamps, the ocean steamers with which the New York Central lines connect and ticket passengers to every part of the globe. This unprecedented recognition by the Government establishes the New York Central as the National railroad of America.

REVERSED NEGATIVES.—Here is a process for making reversed negatives that is simplicity itself, and has the advantage of economy, inasmuch as any old, stale, or light-struck plates may be utilized for the work. All that is necessary is to immerse the plates in a weak solution of bichromate of potash, dry, and expose under the negative to be reproduced till a strong image can be seen at the back. The plate is then well washed to get rid of the bichromate, and exposed to light. It is then developed with the ordinary developer. Although the method is so simple, the results are all that can be desired; yet the process seems to be overlooked.

CLEANING LENSES.—Careless cleaning is a very frequent source of damage to lenses, this damage arising largely from the rubbing of dust upon the surfaces of the lens—ordinary dust, consisting largely of minute silicious particles, which are very much harder than the hardest glasses, to say nothing of optical glasses, which tend towards softness. The great point is, therefore, to use wiping materials which are free from dust and which do not tend to hold the dust. The conventional wash-leather is deprecated, and well-washed muslin cloths are recommended, as readily removing grease and giving a brilliant surface, but when a lens is mounted in a metal cell the edges are not readily reached by a cloth, and for cleaning the edges of mounted lenses pith is recommended, the pith of the rush, the sunflower and the elder being specially suitable. When a lens is so soiled that mere wiping is insufficient, it is very undesirable to use a cloth charged with a detergent powder like jeweller's rouge, as the figure of the lens might be altered; and such corrosive chemicals as ammonia or the mineral alkalies are also undesirable—even water will corrode and damage some glasses. Absolute alcohol, oil of turpentine, and ether are, however, safe liquids to use; turpentine, followed by either for the final cleaning off, being very generally convenient. Cemented lenses must not be entirely immersed in oil of turpentine, but a little is applied to each face.

Cash Prize Contest.

FIRST PRIZE—CASH \$100. SECOND PRIZE—CASH \$50.—In order to secure at once specimens of work done with our new Plastigmat f-6.8, we offer the above amounts in cash for the best and second best pictures submitted on or before July 20th, 1901. Conditions: No restriction is given as to size or subject. Exhibits will be judged on the basis of artistic composition, interest of subject and the extent to which the optical possibilities of the lens are demonstrated. Negatives or negatives and prints may be submitted. We must have assurance that negatives are made with Plastigmat f-6.8. Exhibits must be in sealed package marked "Plastigmat Contest" and with an assumed name referred to in a sealed letter also marked "Plastigmat Contest." The letters will not be opened until after the awards have been made. Competent and disinterested judges will pass on exhibits. It is understood that we have the right to reproduce any picture submitted whether copyrighted or not and that the ownership of negative will remain with the contestant if desired. All contestants will be notified of result of contest, and due credit will be given to all pictures used. Prizes will be paid on the 30th day of July. Contest closes July 20, 1901. Bausch & Lomb Optical Co., Rochester, N. Y.

GUM BICHROMATE is a printing-out process much favored by advanced amateurs and those who prefer artistic manipulation to simple photographic reproduction. The walls of recent exhibitions have been graced with many fine specimens of "bi-gum" work, as it is familiarly called. While the paper is easily prepared, many gum bichromate workers will be glad to know that G. Gennert, 26 East Thirteenth street, city, is now prepared to furnish gum bichromate paper in four colors, viz., sepia, brick-red; warm black, and black, in rolls of 5 feet 31 inches wide, at \$3.50 per roll, accompanied with the necessary sawdust for developing. Sample packages of nine sheets, assorted colors, 10 x 12 inches, with directions and sawdust, \$3 per package.

MESSRS. BURKE & JAMES, 111 Wabash avenue, Chicago, have just perfected and placed upon the market The Ideal "Electric" Ruby Lamp. This lamp will be greatly appreciated by those who can secure electric connections in their dark rooms. It is made of heavy tinplate, and handsomely copper oxidized. The lamp is fitted complete with 16-candle power incandescent lamp and wiring connection which can be screwed into any electric light socket. Each lamp is fitted with three glasses, orange, ruby and ground, either of which can be instantly removed so that the light can be adapted to the class of work on hand. As the metal cap into which the glasses are fitted can be slipped off and on quickly, this will be found the ideal lamp for all round work. Price, \$2.50.

The Amateur in Photomicrography.

BY PROF. W. F. WATSON.

THOSE who use a microscope, whether for amusement or scientific investigation, frequently meet with objects which are worthy of permanent preservation and subsequent study. This is especially true in the examination of stagnant water, which teems with organisms varying in size from bacteria to water-fleas and hydra. The observer not infrequently meets with forms exhibiting marvelous structure and exquisite beauty. Those organisms are often too delicate for mounting in permanent slides, or, if they can be so mounted, the technical skill required is too great for the amateur. But it is possible for the amateur with quite a slender outfit to make respectable photomicrographs, provided he has some natural skill and possesses the virtues of patience and perseverance.

For a wide range of work the microscope accessories should include quite a number of objectives and oculars of different powers, a sub-stage condenser and a mechanical stage. Yet these are not essentials, and the amateur can get along without them if he does not care to photograph very minute objects.

The essentials for photomicrography are a microscope and camera with some means of making a light-tight connection and focusing.

Great care must be taken that no extraneous light enters the camera, as the slightest leakage will have its effects intensified during the long exposures which are sometimes necessary.

In Fig. 1 is shown the apparatus with which the accompanying illustrations were made. In the lumber room of the laboratory a small box was selected for a base. To this were nailed two uprights having half-inch

FIG. 1.—APPARATUS FOR PHOTOMICROGRAPHY.

grooves on the sides facing each other. A half-inch board is prepared to fit the grooves and slide freely up and down. This board may be clamped in any position, and to it the camera is attached by its screw. The lens of the camera is removed and a square of wood is substituted, which has a hole in its center for the reception of the microscope tube. A small strip of black cloth wound around the tube makes the connection light tight. A gas jet which is adjustable in any direction is supported in front of the sub-stage mirror. The whole apparatus rests upon three projections as indicated in the picture, and a weight is placed inside the base to make it more stable.

For such apparatus the vertical position seems much better than the horizontal. In this case the effects of vibrations are reduced and the focusing adjustments are within easy reach. In the horizontal position focusing is generally much more difficult.

Figs. 2 and 3 of the accompanying illustrations were taken by transmitted light; Figs. 4 and 5 (being opaque) were made by reflected light. Fig. 2 represents a very small portion of a transverse section of blackberry wood (*Rubus villosus*). Such a section of wood, cut very thin with the microtome and presenting an even surface with good contrasts, is an excellent specimen for photomicrography, and from it good results can easily be obtained.

FIG 2.—TRANSVERSE SECTION OF BLACKBERRY WOOD.

The next object, a bee's sting, represented in Fig. 3, is far more difficult. The delicate striations on the sting were very hard to bring out clearly. This picture was made by using oblique light with the sub-stage condenser and developing for contrast.

In photographing opaque objects more difficulties arise. Most prominent among these is the matter of suitable illumination. The picture of the needle point, Fig. 4, was made by placing the apparatus about four feet from a north window and turning the apparatus until the light fell slightly to one side of the object, which was an ordinary smooth sewing needle. The picture was taken on a non-halation plate.

The bee's sting and needle point pictures were made for comparative study, and for this purpose the sting was taken straight and in sheath. It was considerably magnified, which would render conspicuous any imperfections if they were present. But the microscopic smoothness and per-

fection of detail in the natural object present a striking contrast to the clumsy workmanship exhibited in the magnified needle, though its magnification is very much less than that of the sting.

An extremely difficult object for photographing is the keen edge of a polished razor blade, which is shown quite highly magnified in Fig. 5. It appears next to impossible to secure good magnifications with delicacy of detail from a brightly polished and glimmering surface, and the amateur who attempts it without much experience must count on a long series of experiments and many spoiled plates before he is likely to succeed.

In photographing the razor edge the blade may be attached to the mechanical stage of the microscope by means of fine copper wires twisted around the shank. A better way, however, is to prepare a little block of wood, as shown in the diagram, about 3 by 1 by $\frac{1}{2}$ inch, cutting a groove along one of the longer edges for the reception of the back of the razor blade and leaving the edge exposed. If the groove be properly cut (which can be done with a fine saw and an awl), the blade can be pushed in from the end and should fit it well or be tightened in place by little wooden wedges. Of course the upper surface of the razor's edge must be level. When once fitted in this way, the block of wood carrying the razor can be moved into any desired place on the stage. These manipulations have to be done with deliberation and care to prevent injury to the keen razor edge and to prevent the fingers of the operator from being gashed.

The light used in making this picture (Fig. 5) was supplied by a large gas burner placed at a distance of one foot from the blade and elevated so that the light fell upon the object at an angle of about 30 degrees. A large

FIG. 3.—BEE'S STING. FIG. 4 NEEDLE POINT.

plate of ground glass was interposed between the source of light and the razor to prevent the glimmering effect from the polished steel, which would have resulted in a fogged appearance in the negative. The actinic action upon the dry plate was very slow, owing to the loss of light, both in its passage through the ground glass and in its reflection from the razor's surface. There was, of course, the additional weakening effect caused by magnification, the light from a minute area on the razor edge being spread over a comparatively large area on the dry plate. This picture was made by an exposure of one hour on a 26 Seed plate.

On account of the weakness of the light, the focusing, which had to be done with great precision, was difficult. The image in the camera was very

faint. When focusing such a dim image the focusing-cloth must be opaque and must shut out every ray of outside light. In addition to this, a hand lens must be used to make the image still more distinct.



FIG. 5.—RAZOR BLADE HIGHLY MAGNIFIED.

In photographing transparent objects it is important that reflected light should not enter the lens. A useful attachment is a small cylinder made by rolling up a piece of black photographer's paper and gumming the edge. This cylinder should fit over the end of the objective lens and reach nearly down to the stage. By using this cylinder the brilliancy of the negative is sometimes greatly increased.



FIG. 6.—BLOCK FOR HOLDING RAZOR BLADE.

The amateur is sometimes advised to use only the objective lens in photomicrography. The propriety of this is questionable. The pictures made with one lens are generally very small, or the apparatus is inconveniently long. In addition to this it is almost impossible to prevent some light being reflected from the sides of the microscope tube when only the objective is used. It seems better, therefore, to use a low-power eyepiece with the objective.

The time of exposure is an extremely variable element. It varies with every change of objective or of ocular and with every change in the character of the object and nature of the illumination. The time of exposure in the case of the accompanying pictures differed from a few seconds to one hour. No rules of much value can be given, but the beginner will gradually learn by experience to observe the strength of the image when it is focused in the camera, and estimate the time of exposure accordingly.

Silver Phosphate Paper.

(Report by George D. Firmin to the Photographic Society of Philadelphia.)

About a year ago I reported rather unfavorably upon a silver phosphate printing-out paper. That report dealt principally with a paper of my own preparation and one or two samples given to me by one of our members. Since then I have received from Dr. Johannes Meyer, of Brooklyn, some samples of his more recent product. This paper has several advantages. It is easy to work and almost any desired "tone" or color may be obtained. It may be toned in any gold or platinum toner, or both. But thinking that most of us wish to avoid trouble, I have simply experimented with the paper to see how it will work without toning.

I received two grades of paper—a thin smooth and a heavy somewhat rougher surfaced. The prints show quite a difference in the colors obtained with these. Dr. Meyer wrote me that the paper was exceedingly sensitive to slight changes in the hypo fixing bath. This would suggest that the paper is troublesome to work; but I found quite the reverse to be the case, as the prints will show. The manufacturers' directions are to slightly overprint, wash in two changes of water, immerse in fixing bath (water 3 quarts, hypo 2 ounces, bicarbonate soda $1\frac{1}{2}$ drams) for two minutes. Then wash. It was stated that varying the proportion of bicarbonate soda produced a variation of tone. Of the prints shown some were fixed with no bicarbonate in the hypo, some one dram, some one and a half and so on up to ten drams NaHCO_3 . There is very little variation in color beyond what

might be produced by differences in printing or paper. In using the paper now I simply mix a little weak hypo without paying any attention to exact strength, drop in a pinch of bicarbonate as a matter of form, let the print lie in this a couple of minutes, wash in a few changes of water and dry near the heater. The results are quite uniform.

Of course the natural color of the print does not suit all subjects. (That is true of all papers.) But it does suit some, as the prints shown will testify. But that is largely a matter of individual taste. Ease of manipulation is one advantage of the paper; low cost is another; the cost of 5x7 being, I think, thirty cents the dozen.

The question has been asked as to permanency of these prints. Those on the cards have been made some months (since October), and exposed to all sorts of conditions—light, heat, moisture, heater air, U. G. I. gas, etc., without any noticeable change.

The passe-partout picture is from a flashlight negative (ergo, harsh), printed on the old style phosphate paper, which, I think, was sized with albumen. The color is much richer than that of the newer paper, but the old was not so uniform. This print was exposed to bright sunshine during June, July, August and September of last year. It is as permanent as any silver print well can be. It was not toned.

After keeping some of the paper loose in paper envelopes in an ordinary room for five months it prints as well as when fresh.

Report on Backed Plates.

(Presented on Behalf of the Technical Committee of the Photographic Society of Philadelphia, by Dr. Caspar W. Miller.)

Your committee, having recently received some backed plates from one of the dry-plate manufacturers, desired me to carry out some tests as to the value of the backing as a means of preventing

halation. The results of these trials are presented herewith, it being understood that the conclusions arrived at apply only to the particular brand of plates tested.

The subjects chosen for the experi-

ments while working with control plates were: No. 1, Welsbach burner distant about one foot from the lens of the camera; No. 2, a window at which the camera was pointed, including also some portions of the room surrounding the window; No. 3, a cut-glass pitcher with a bright silver band around the top. A number of other exposures were also tried, but the above gave the most distinctive results, and were characteristic of all. The method of operating was as follows: Two exposures were made in rapid succession, one plate being backed and the other unbacked. The plates so exposed were taken from the holder, the unbacked plate scratched on the back with a glass-cutter, and both were then placed together in a dish of water and allowed to soak for a short time. The backing was then stripped from the backed plate and both plates were well washed under the tap. They were then placed together in a tray and covered with developer (Amidol). Here they were allowed to remain until the development had progressed to about a normal density (disregarding the highest lights). Both plates were then removed from the developer, washed together and fixed together. From this it will be seen that the plates received identical treatment. As will be noticed from the negatives submitted, the backed plates (those without scratches on the glass side) show in each instance slightly less halation combined with slightly greater general density than the corresponding control plate, but the difference is so little that it would scarcely compensate for the increased trouble of working.

This latter is greater than would at first appear, because it comprises not merely the removal of the backing, but also the continual rocking of the tray during development. If this be omitted the finished negative shows mottled or crape markings, which are very apparent in No. 1. Nos. 2 and 3 were rocked continuously, and are perfectly free from any such defects. This difficulty appears to be due entirely to the fact that when the plate is placed in the developer the gelatine is already partially swollen with water from its previous immersion, and the developer therefore penetrates less easily and uniformly than in the case of a dry film, into which it is drawn by imbibition. This view is substantiated by the fact that in some other plates from the same box as No. 1, developed without

the preliminary soaking and also without rocking, no mottling occurred and the plates proved themselves to be in every way of excellent quality. In practice the omission of the soaking in water carries with it the disadvantage of contaminating the developer with the backing substance.

The method of experimenting described, while probably giving results of sufficient accuracy for practical purposes, is theoretically defective for the following reasons: (1) The sensitive films on the backed and control plates may have differed in their power of breaking up the incident light, owing to differences in the size or texture of the silver haloid grains. (2) The films may have differed in actinic opacity, due to differences either in the emulsion or in the thickness of the coating. (3) The films may have differed in sensitiveness and consequently in susceptibility to the influences tending to produce halation. No such variation in sensitiveness could be detected by several rough tests made for the purpose, and all the plates used were labeled as of the same character. Nevertheless, since the control plates were not of the same emulsion as the backed, this point is not beyond suspicion. (4) The color of the glass itself may have differed. (5) The thickness of the glass, that is, the distance between the film and the reflecting surface, may have differed. This latter was actually the case, for as will be seen from the negatives the backed plates are somewhat thicker than the unbacked. The greater removal of the reflecting surface from the film would in itself tend to increase the halation; while, on the other hand, a thick plate means that the light which returns to the film must have traversed a greater amount of colored medium, and will therefore be more green and less actinic.

The most obvious way of avoiding these objections would be to remove the backing from half of the plate, and then compare the results on the backed and unbacked portions. The only difficulty with this plan is the mechanical one of getting the very tenacious backing off before it has been wet. This obstacle was overcome by pressing a strip of wet blotting paper on one-half of the backing and allowing it to remain until the black paper could be stripped. The underlying pigment was then rubbed off and the plate exposed. In order to get a uniform exposure at the two ends of

the plate, it seemed desirable to use as object an evenly illuminated surface. With this end in view a sheet of white muslin was hung up at a window in direct sunlight, and in front of it were placed two screens so spaced that a strip of the illuminated sheet remained exposed between them. In front of the screens was placed printed matter, in order to furnish detail from which to judge when a correct exposure should have been given. The negatives taken with the camera directed at the above arrangement are numbered 4 and 5. The exposure and development given No. 4

were each about double that given No. 5. In consequence the halation is much greater in the former negative, although in the latter, which received about a correct exposure to render satisfactorily the printed matter, it is still very apparent. By careful scrutiny a faint difference in the depth of the halation can be detected across the middle of each plate, but, as in the case of the backed and unbacked exposed separately, the advantage of the backing is so slight that the conclusion drawn from the first series of trials is fully confirmed by the second and more reliable method.

Our Table.

Books for review and apparatus and material for examination and report should be sent to Dr. John Nicol, Tioga Centre, N. Y., from June 10th to September 20th to Point O' Woods, Long Island, N. Y.

CLOTH COVERED FRAMES.—In our March "Table" we noticed the cloth-covered frames made by F. H. Collins of Nashua, N. H., and now he writes to say that the demand for irregular sizes is such that he has resolved to supply them made and finished to any particular size at a very slight advance on the price of the regular sizes. Accompanying the letter are a number of finished frames, the value of which can only be realized by filling them with pictures. Picture makers by photography should communicate with Mr. Collins and he will help them to show their work to the very best advantage at the least possible cost.

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MELLEN'S NOVELTIES.—From the Mellen Manufacturing Company, Chicago, comes a booklet telling of a number of little things, that if only known would count largely in the estimation of photographers and add largely to their comfort. It tells of a panoramic printing frame, trays for developing panoramic prints, a new flash lamp, a simple view finder, a syphon for developing solutions, an adjustable retouching board, a negative pick, and last, but not by any means least, a very useful tripod stay. The booklet is to be got for the asking, and should be sent for by every photographer.

ARTISTIC PHOTOGRAPHERS who have passed beyond the glacé stage, and who want a medium more true to nature than the gelatine print, upon which to perpetuate their ideas, will hail with delight the new Eastman W. D. Platinum Paper. It is furnished in smooth and rough. For portraiture the smooth is to be recommended, unless for large sketchy subjects; but the rough is an ideal paper for landscape work. The manipulation of the paper is simplicity itself, and our trials have been entirely satisfactory, notwithstanding unfavorable weather. The additional advantage of rapid printing and absolute permanence should recommend it to every one, especially those who have only limited time for their photographic work. There are no chemicals or toners required to produce the richest effects beyond a little acid in the clearing and final washing water. It is a pleasure to watch the faint image change to a rich velvety black under the application of pure water. The W. D. Platinum Paper should have a large sale.

* * *

THE PLASTIGMAT.—Since writing the notice in our last of this new lens, patented by the Bausch & Lomb Optical Company, we have been able to examine

it more critically and put it to the test of more practical work, and feel that notwithstanding all we said in its favor, we hardly did it full justice.

While it is true that for purely pictorial photography the most important feature of a lens is its focal length, and that the quality of the lens is of considerably less importance than the ability of the man behind it, there are few, even of pictorial photographers, who will not willingly practice considerable self-denial to be able to secure one of the best. And surely the plastigmat comes under that denomination. Exposed on the test chart issued by its makers an area considerably larger than the sizes for which it is listed is absolutely faultless; lines both vertical and horizontal, small squares, and circles are rendered with a sharpness and brilliance far ahead of that given by the best rectilinear, and superior to that of some of the modern anastigmats; while its speed, $f/6.8$, is rapid enough for almost all shutter work. But it is with its elements, its employment as a single lens, that we are at present most interested. Older photographers are in the habit of speaking lovingly of the old-fashioned landscape lens; of its brilliant image, its more pleasing perspective and finer definition, and perhaps there was more in it than the modern man is inclined to believe. However that may be, a glance at the image formed by one of the elements of the plastigmat on the ground glass will be a revelation to those who have only seen the image formed by the ordinary rectilinear, and that one glance will tell more of its superiority than we could express in a page. The perfection of the doublet depends on the perfection of its elements, and in the plastigmat they are simply perfect. Although only about 11 inches in focal length, it covers sharp to the edges a whole plate, $8\frac{1}{2} \times 6\frac{1}{2}$, and as its working aperture is $f/13.5$, it is rapid enough for ordinary shutter work. But although the lens will cover that size perfectly, we have always taught, as our readers know, that for the highest class of pictorial work the lens should not be shorter than once and a half the length of the longest way of the plate, and hence the single lens of the plastigmat is an ideal lens for a 7×5 . On that we have employed it, and the results are such that we cannot conceive the possibility of anything better. Taking it all in all, the Bausch & Lomb Company are to be congratulated on having introduced a lens as nearly perfect as we

can ever expect to see, and one, at the very least, equal to anything that has been given to the photographer.

* * *

WILLIAM C. CULLEN, 61 William street, New York, has long enjoyed the reputation of handling only the best the market produces in photographic supplies. His developing, printing and enlarging business has grown so rapidly that new quarters were needed, and that department alone now occupies an entire building in the suburbs. Here, away from distracting influences, the very highest grade of work is turned out. Prices and full particulars of the work done by the firm will be found in a very neat booklet which is free for the asking.

* * *

THE NEW BRUNSWICK TOURIST ASSOCIATION, St. John, N. B., have issued a handsomely illustrated booklet entitled "St. John River; the Rhine of America." For those who like to study nature in picturesque and rugged natural grandeur there is no more delightful place to summer than New Brunswick. "What days and nights more gracious and benign than those which reign in summer in St. John, while other lands perspire and shrivel up with fervent heat!" Anglers and hunters of live game or picturesque scenery who can afford to leave the city and revel in Nature should write for a copy.

* * *

W. B. BUCHANAN, 1226 Arch street, Philadelphia, sends us a copy of the "Photo Ticker." This is a bulky periodical published as "often as required," and is full of good information and good bargains. There are very few dealers who carry a better and fresher stock of materials than Mr. Buchanan. Out-of-town buyers who have difficulty in getting supplies cannot do better than send for a copy of the "Ticker" and patronize the home of the white cat.

* * *

The Photo-Miniature for April deals with landscape photography, and in its usual lucid style, giving, especially to the beginner, much useful information, as well as some that the more experienced need not despise. Especially timely are its observations anent the difficulty of

composing a picture by looking into the finder, and the necessity for studying it on the ground glass; and on the impossibility of making a picture without sufficient exposure; although on page 30 the author is a little hard on the exposure meter. Figures are, to us at least, a little confusing, but surely he makes a slip on page 31, where he says he employs something like a 3 per cent. solution of eikonogen as a developer. That is about fourteen grains to the ounce, a quantity that, with the earlier samples at least, he would find difficulty in dissolving.

But these are little slips in an otherwise excellent monogram that in the hands of the younger aspirants to picture making will be found of great use and help them over many a snag.

We have also to thank the editor for the *Photo-Miniature* Poster, a symbolical emanation that tells much to those who care to unravel the mystery. A little girl in red that is older than her years, or with an old head on young shoulders, and—but no; our readers who may happen to see it must learn its story for themselves, as we shall content ourselves by saying that it will answer its purpose, the calling of attention to the little magazine that it so well represents.

* * *

THE AUTOPOSE.—From the Faries Manufacturing Company comes an illustrated booklet describing that interesting and useful little addition to a camera that we noticed in our October number, and that we have used with satisfaction from time to time ever since. How often do we find the only thing lacking in an otherwise good composition to be a suitable figure with no figure at hand? The object of the autopose is to supply that want by letting you pose yourself. It is only necessary to set the tripper to the time required for you to get into position, pull out the plunger, take your previously decided on place and listen for the click of the shutter. The \$2.50 does not add much, to the cost of an outfit, but it adds very much to its possibilities.

VELOX MANUAL.—The Nepera Chemical Company send a neatly got up booklet telling all about velox and how to use it in the production of prints of the highest possible class. Tells also about failures and how to overcome them, as well as how to select the best, or rather the

most suitable of all the various papers they make for all kinds of negatives and all sorts of subjects.

They also send an illustrated description of the new "Velox Printing Board," which to those who do much printing will fill a long-felt want. While not a necessity the two dollars spent for this board will give to the velox or any other gaslight paper printer a greater amount of luxury than a like sum spent in any other way that we know.

* * *

LANTERN SLIDES AND SLIDE MAKING. By Osborn I. Yellott. *The Photo-American Publishing Co.*, New York.

This is a reprint of a series of articles that appeared in the *Photo-American*, and we give it a hearty welcome, as it is in almost every step and phase as nearly as possible what we have again and again written as the outcome of over forty years of slide making. Only those who have the opportunity of seeing the slides of the Interchange know how great is the necessity for such a book and especially for the following passage which we take the liberty of quoting: "A good slide should have no clear bare glass except in the highest of high lights, and it should be nowhere opaque to the light by which it is to be shown, except in the deepest of deep shadows, or where something black is to be represented; and no good picture ever has much or many of these highest lights or deepest darks." In other words, a slide in which sky and water, roads, roofs of houses, or indeed anything else except a white painted wall or fence or a white shirt or collar are reproduced by bare glass, should never reach the mounting stage.

The author not only tells what a good slide should be, but also how to make it so, and it is the barest justice to the book to say it should be in the hands of every slide maker in the land, as its careful study would effect a revolution in American slide making.

* * *

PLATINUM PAPER FOR SUMMER WORK.—Let us hope that the long season of damp and dull weather is now at an end. Moisture in the atmosphere is against the best results in platinum printing, and therefore workers have been neglecting this beautiful and permanent process. The BB paper, manufactured by Willis-

& Clements, 1624 Chestnut street, Philadelphia, yields effects obtainable on no other paper. We suggest that those who have not tried platinum paper to send

them 25 cents for a sample package with developer and full directions. It is the most satisfactory and easy of all printing papers.

Two New Cameras.

PANORAMA PHOTOGRAPHY SIMPLIFIED.

MULTISCOPE & FILM CO., BURLINGTON, WIS.

For views of mountain scenery, broad landscapes, sea coast or yachting scenes the panoramic photograph is par excellence. Years ago we used to wrestle with the difficulties attending the making of overlapping views on glass plates with an ordinary camera revolving on a tripod. To produce a satisfactory panoramic view by this means necessitated an enormous amount of labor, waste of time and material. Each exposure had to be timed to a nicety, plates all developed to

appointment. It looked like a good-sized trunk and took a picture on 11 x 14 plate which was made to swing on its axis by cog wheels which revolved the lens board in the opposite direction. The Multiscope and Film Co., of Burlington, Wis., finally solved the problem by using the swinging lens in conjunction with rollable film. Panoramic photographs are now made in a few minutes that took days of work with plates—and better. The operation is simplicity itself and attainable by any one who can expose and develop a film. Press a button and the lens revolves, recording everything in a scope of 180 degrees or less. No intricate mechanism to get out of order, shutter to set, or stops to calculate. Each year the Multiscope and Film Co. have added improvements and new models. Their latest is the 5-F, which is a whole battery of cameras in one. It takes any length of panoramic view from 5 x 4 to 5 x 12 inches. It also takes 3 x 5 glass plates, and is fitted with ground glass and plate-holder. This improvement is also in the 5-C, but the 5-F has an additional folding front with bellows and all the features of a regular folding camera. The possessor of one of these cameras needs no other. If you desire a camera that will do the finest plate work, and also panoramic views write to the Multiscope and Film Co., 132 Jefferson street, Burlington, Wis., whose advertisement appears elsewhere in this magazine.

5 F ALVISTO. FOR PANORAMIC VIEWS ON GLASS PLATES.

exactly the same density and the same care exercised in the printing and toning of the several sections. To overcome all this many attempts were made, much time and money expended by private individuals and many patents applied for. Curved glass plates were tried, and the writer remembers seeing one camera that represented years of labor and final dis-

A Long Focus Camera.

ROCHESTER OPTICAL & CAMERA CO., ROCHESTER, N. Y.

THE Long Focus Premo, owing to its adaptability to a wide range of work, is a style that has found great favor among a very large number of advanced am-

ateur and professional photographers. As its name indicates, this style of Premo possesses an extra long bellows permitting the use of very long focus

lenses, as well as those usually furnished, and is especially adapted for copying purposes. The extra length of draw is obtained by the addition of a folding back, which drops into position by simply touching a spring at the top. This forms a bed, upon which the rear portion of the camera containing the ground glass screen will slide, the draw being operated in the rear, as well as at the front, by a rack and pinion focusing attachment, permitting the focus to be obtained from the rear or front at will. The double swing back, constructed on an improved plan, so that the

ation, as required. In using one combination only the front lens may be removed and the rear lens used alone, which practically doubles the focus, which can be further increased by removing the rear lens and using the front combination in its place. For mountain scenery and subjects at long range, this is often an advantage, as the objects in the view appear larger in the picture. The Zeiss Convertible Series Villa Lens embraces these advantages, besides its anastigmat qualities, giving a flatness of field and definition unsurpassed. The Goerz Double Anastigmat Series 111,

horizontal and vertical swings both oscillate at the centre of the plate, is a special feature, which will be recognized by those more advanced in the art. The vertical swing (more generally used) is operated by a fine rack and pinion attachment. It has both rising and sliding front, reversible back, hooded brilliant finder, and double spirit level. Four lenses are listed with this camera, the selection reverting to the purchaser. The Rochester tele-photo is a lens of three foci, and can be used with double combination, or with either single combin-

and Voigtlaender Collinear are double foci, possessing very great speed, depth of focus and covering power, the astigmatism being completely corrected, and even when used with full aperture, yielding a perfectly sharp and brilliant image over the entire plate. The focal length of the 4 x 5 is 26 in.; 5 x 7, 34 in.; 6½ x 8½, 43 in., and the 8 x 10, 55 inches. There is no other camera made giving such great focal capacity and in neat and portable form. Further particulars will be furnished by the Rochester Optical & Camera Co., Rochester, N. Y.

Our Portfolio.

Communications for the editors, pictures for criticism (only one print at a time) and apparatus and material for examination, should be sent to Dr. John Nicol, Tioga Centre, N. Y., from June 10th to September 20th to Point O' Woods, Long Island, N. Y.

1226. C. S. ROULO.—"A Spring Day" does not convey the idea of spring, foreground and trees and cottage being dark

enough to suggest the shades of evening. The printed-in sky would have been good if less pronounced, but it is considerably

darker than the water below to which it is supposed to give its light. The fault is under exposure, but the subject is hardly worth the trouble of another trial, at least from this point of view.

127. W. H. S.—“After the Storm,” a woman sweeping snow from a doorstep, is not of much interest as a picture and hardly up to the mark as a photograph. Snow scenes may be interesting, but not by scattering the lights all over the front of the house as they are in this; nor by such exposure and development as results in practically nothing but white and black. Properly lighted shadows are even more important in them than in other phases of landscape. You might have taken the broom as the keynote, and realized that just in proportion as it is darker than it should be, so are the whole values from truth.

1228. W. I. PRENTISS.—“The Day is Done.” We commend your desire to catch the fleeting effects of the departing day, even although you have not met with much success. The large mass of perfectly black which makes up the foreground is a bad beginning for the eye to rest on, nor is it much better satisfied when it reaches the nearly as black cloud with its lack of luminosity and too evenly toned sky. The reproduction of the glorious evening cloudland is one of the weak points of photography; but we think a longer exposure would, in this case, have given you a better result. Try intensifying the negative slightly.

1229. MISS HATHAWAY.—“Mary.” A portrait of a young woman in a white shirt-waist, in front of a dead black background, and printed under a circular mask, has both good and bad qualities. You say “I could give a long list of its poor points.” Don’t you think it would have been better to have tried to correct them before sending, and sent only a picture in the making of which you had done the best you knew how? That is our idea of the portfolio, as it is hardly fair to occupy both time and space in telling what you already know. The most serious fault is the fact that the technique of the dress is so very much better than that of the face, thereby attracting and keeping the attention from what should be the main object. Hardly less objectionable is the way in which the head is buried in the background, giving the appearance of being cut out and pasted on, caused partly by the lighting

being too much in front, and probably also to a certain extent by the figure being placed too close to the background. The front lighting has also made the face far too flat, that is without sufficient contrast of light and shade. The printing under a circular matt is a matter of taste, but unless for some particular reason which does not appear in this, it is to say the least questionable taste. Use a lighter background, light more from the side, and secure a feeling of atmosphere between the figure and the background; and above all, so subdue all that the attention will be led to and kept on the face.

1230. F. C. BAKER.—“Harrowing” is in the same style and of the same good quality as the “Ploughing” noticed some time ago, and it has the same fault, slightly over printed. But it is a really fine picture that would have been just a little better had the horses been contrasted instead of both white, and had they been just a little nearer the foreground. We shall have pleasure in reproducing it.

1231. See page 253.

1232. R. E. BYRNE.—“Chores” is a fine subject from a fine point of view, but flat almost to indistinctness. It is too uniformly grey all over without anything like sufficient contrast of light and dark. The figure that gives it its title is placed far too near the front and too far from the barn, suggesting much more the idea of “going to market.” The atmosphere is well suggested in the distance, but it is equally hazy in the foreground, where atmosphere should not be. The lines on the right lead admirably to the barn, and if the figure had been placed near the root, just in front of it, it would have been a decided improvement. With that and the necessary contrast, it might have been a very great success; but don’t spoil a good photograph when you make one, by trying to color it. It is just possible that part of the fault we find with this may be caused by the smear of color that remains after washing off all that would come of what you had painted over it, and that if you would send another copy without color we might have something different and better to say about it. If you do, please mark it No. 1232.

1233. See page 247.

1234. CARL C. DISTLER.—“The Haunted House.” This is in your usual style

and very nearly of your usual quality, but is rendered more than top-heavy by the all too dark cloud at the top. We have tried hard to discover your aim in thus overloading the sky, but without success, and feel inclined to apply a tuft of cotton, charged with a reducer, to bring it back to something more like nature. Although nature is not art, it never can be good art where nature is so violated as here. Except for the heavy upper sky, however, it is otherwise good.

1235. See page 257.

1236. W. DEARDON.—"In Winter." Apparently the rocky top of a mountain, of little value from a pictorial point of view, but interesting as a tele-photo exposure from a distance of six or seven miles. As you say, a merely technical, or record of fact, photograph is of interest, and surely this is so; besides being an excellent example of what may be done with the tele-photo lens. Its only fault is its all too great contrast, too white and black, but you could hardly expect more with such a short exposure. Instead of "a short second" two would not have been more than was required, and with that it would have been just what was necessary.

1237. H. W. STONE.—The unnamed print is technically a good photograph, but without a trace of pictorial value. It may have looked very well in nature, but as arranged it is meaningless, suggests nothing, and conveys no impression, while the straight black line leaning across from right to left is positively obnoxious. Your photography is fairly good, but you must take more care in your selections.

1238. A. G. GRAFF.—"The Blacksmith" is very nearly a success, there being only two real faults, unsuitable lighting and a lack of suggested motion. The light has been too much in front, making the figure all over a uniform grey, and the arm at rest with the hammer on his work, instead of being raised as if about to strike, conveys too clearly that he was standing for his portrait. Try again, and if you cannot concentrate the light so as to produce both light and shade, burn a little magnesium at one side out of the reach of the camera. See that the arm is so placed that it will appear as if about to strike, never minding if it is a little blurred from slight movement. The head that you seem to think spoiled by a slight movement is very

much better than if it had been "dead sharp." We shall try to reproduce it, although it is a little too flat for that purpose.

1239. F. J. RUSSELL.—"Comrades." Two trees, a fence and a foreground bare but for a little snow, do not afford matter for pictorial effect without better handling than they have got here. In the first place, there are but two tones, a greyish white and a greyish black; everything, including both sky and snow, being either the one or the other. Then, the trees, the comrades, are equally prominent, causing the eye to wander from the one to the other without finding whereon to rest, and the moment divided interest enters into a picture it is done for. Again, the fence running almost horizontally across the print is a serious fault, which, as well as the misplacing of the trees, might have been cured by the selection of a different point of view. The only satisfactory feature is the atmospheric effect, one of the rarest features in photography, and here it is especially fine.

1240. E. G. FOUNTAIN.—"A Moment's Rest." The operations on the farm are always interesting, especially when they are so well rendered as in this. The hard work of harrowing has been suspended midway in the field, while the "Ploughman" refreshes his team by the much-needed draught of water, as is shown as holding the pail while one of them drinks. Except perhaps for a little deep printing, it is in every way good, its keynote being the sympathy that should exist between the horse and its master. The one fault, the all too deep printing, suggests the gloom of evening rather than the sunshine of the day, and is hardly in keeping with the need for water; but we shall have pleasure in reproducing it. See frontispiece.

1241. A. PIERCE.—"Contentment." A foreground of confused masses of rock ending in a jutting point, on which is seated a woman holding an umbrella. Behind, and nearly parallel with the margin, rises the massive trunk of a tree, the branches of which break up the sky towards the top; and in the lower left a boat; while what should be sky and water are divided by a light grey band that may be of a hilly nature. Of not one point can we say a favorable word, nor is there anything where or how we should

have placed it excepting perhaps the position of the horizon. But for the boat, which gives us the keynote, we should not know what was intended to be represented, the water being simply white paper, and the rocks so wanting in definition that they might be grass, or, indeed, almost anything else. The sky is equally white, while the branches that cross it are as black as paper can be made. Those are faults of photography, faulty focussing, and under exposure and over development; the rest is faulty art, or rather the utter lack of it. It is clear that the figure could not have got up to her pinnacle without help, and one feels that a puff of wind would blow her off. Then, to make matters worse, the tree behind is leaning just enough to suggest a fear that it is about to tumble over and crush her. If you take photography seriously don't indulge in the grotesque, and never think that sky or water are properly represented by white paper.

1242. C. C. TYLER.—"Study of a Head." As an example of "home portraiture," this affords ample proof that, in certain styles at least, quite as good work may be done in an ordinary room as in the best-equipped studio. Judging from the result, the aim seems to have been to imitate a crayon drawing, and it is not far from a success. The lighting is a little at fault in so far as the line of demarkation between the light and dark on the cheek, from a line with the nose down to the chin, is a little too abrupt, and

could have been softened by a little reflected light, and the background would have been better a little lighter. Taking it all in all, it is more than fairly good, but why let the neck be spoiled by being so wrapped up in the present most in-artistic fashion? The professional photographer must as far as may be work to please those who employ him, but the amateur who works to please himself should never allow such an absurd fashion to spoil an otherwise fine picture. We should like to reproduce it, but fear the engraver will object to the all too little contrast. See "Answers."

1243. See page 246.

1244. See page 245.

1245. H. C. D.—"The Cascade" can hardly be called a picture or even a record of fact, as, from the point selected, it has nothing of the picturesque, and from lack of definition and blackness from under exposure, the surroundings of the cotton wooly water can only be guessed at. The arrangement is faulty because of the repetition of the vertical stream of water by the, apparently, mass of equally vertical rock, and as everything is white on which light has fallen, and black where it has not, it is simply a conglomeration of white and black scattered all over the print. Study some work on composition and light and shade, and learn the necessity for sufficient exposure, and let us hear from you again.

Letters to the Editors.

THE WYNNE EXPOSURE METER.

Dear Sir:

I have just purchased a Wynne's Exposure Meter, and it seems I have struck a snag at the very outset. The trouble is with the speed list, which, besides being miserably deficient in American plates, appears to be glaringly incorrect. Here is the comparison of speeds (Cramer Plates):

	Wynne's List.	Cramer's List.
Crown	3	1½
Banner	2	1½
Med. & Co.	1	1
Last & Co.	3	1-5

If you or any of your readers have used this meter in connection with these plates, possibly you could give me the "diaphragm Nos." of them, as indicated by your experience. As it is the instrument is practically worthless.

Yours truly,

CHESTER W. LARNER.

[We know nothing further anent the Wynne's Exposure Meter than appeared on page 53 of our February number, except that "during the winter," as we learn from the Messrs. Anthony & Co., they sent to the Wynne Exposure Meter Co., in England, "samples of almost

every dry plate and film made in America; for the purpose of having a new speed card made," and that notice shall be given as soon as they arrive. Till then, why not ascertain for yourself the speed of the particular plate that you most generally employ?

The speed number, according to the Wynne system, is the f value of the aperture that will give a correct exposure in the time required to bring the test paper to the standard tint. For example, while we write, the light is such as to darken the test paper to the standard tint in 12 seconds, and the plates we are using are found to be correctly exposed in that time with an aperture of $f/90$, and hence that is said to be their speed

number. From the arrangement of the meter it is only necessary to reverse the operation to make it give the speed number of any plate. It may be taken for granted that modern plates range from $f/64$ to $f/100$. First ascertain the actinometer time, then expose four plates, or if economically inclined, different parts of the same plate, 1, $1\frac{1}{2}$, 2, and 3 seconds, with an aperture of $f/32$. We suggest $f/32$ as giving more latitude than larger apertures. On development one of the four will be found correct or nearly so, and if $f/32$ on the dial be turned to figure indicating the correct exposure the speed number of the plate will be found opposite the actinometer time.—EDS.]

Society News.

Secretaries of camera clubs or photographic societies or associations are respectfully requested to send to Dr. John Nicol, Tioga Centre, N. Y., from June 10th to September 20th to Point O' Woods, Long Island, N. Y., reports of meetings, copies of papers that have been read before the members, or anything of general interest that they would like to appear in the journal.

The Camera Club of New York.

The regular meeting of the club was held on Tuesday evening, May 14th, presided over by President Aspinwall.

After the usual reports of the treasurer and committees, an amendment to the by-laws providing for a change in the provisions for the annual selection of a nominating committee was submitted to the meeting, but after much discussion it was voted down. Then followed nominations for club critics on prints and lantern slides, resulting in the election of three critics for prints and three for lantern slides to serve for one year. Those selected for prints were Alfred Stieglitz, Chas. I. Berg. Dallett Fuguet, and slides were John Beeby, J. Wells Champney, Mr. Frazer.

It was announced that the well known library of photographic works and books comprising over a thousand volumes

collected by Mr. Charles W. Canfield, formerly secretary and president of the old Society of Amateur Photographers, had been purchased and presented to the Camera Club by the president, Mr. John Aspinwall. The announcement was received with applause by everybody. A formal unanimous vote of thanks was passed to Mr. Aspinwall for his generosity. This large accession now makes the Camera Club library the most complete in the country.

It was quite late when Mr. Charles E. Manierre gave a talk on "Simple Practical Tests of Lenses," illustrated by a series of diagrams drawn on large sheets of paper. He explained Grubbs' and one or two other methods of ascertaining the equivalent focus of a lens; stated that the lag in a lens is produced by the shutter, the marginal lines will be bow-shaped instead of straight. Astigmatism in a lens can be noted by observing on the ground glass the image of

a thermometer bulb illuminated by reflected light. The image will appear oblong instead of round if the lens is not anastigmatic.

He then touched upon chromatic aberration and explained simple methods of detecting it. By experiment it was found the distance between the visual and chemical focus was about 1-32 of an inch. He explained that the angle of the field is equal to the diagonal of the plate employed. In noting this on the ground glass it was well to begin with the largest stop and substitute others in the lens until one is found which will cover the whole ground glass with a distinct image to the edge. He preferred the f. system for marking stops because each aperture represented a fractional part of the equivalent focus of the lens. He described methods of ascertaining the nodal points in lenses; tests for illuminations, and tests for position of plate holders, plate and ground glass. The surface of a lens should be examined with a magnifying glass for scratches and defects. For bubbles the lens should be pointed at a window and looked through. Fine bubbles were harmless.

He explained the nature of flare spots, and said some were images of the diaphragm.

In conclusion he advised the study of N. S. Cole's book on photo-optics, also a book by J. Trail Taylor on the same subject.

Capital Camera Club.

WASHINGTON, D. C.

Tenth Annual Exhibition.

The tenth annual exhibition of the Capital Camera Club of Washington, D. C., held in the Hemicycle Hall of the Corcoran Gallery of Art, from April 22 to May 1st, is worthy of record as a great success. The exhibition committee, Messrs. Wm. P. Herbert, H. T. Simpson, J. M. Little, W. S. Davenport and J. W. L. Dillman, to whose untiring efforts the success was greatly due, procured a large list of entries. The selection jury was composed of four prominent painters and one professional photographer, and that their work was critical was shown by the fact that over 40 per cent. of the pictures submitted were rejected.

During the winter the Capital Camera

Club had a series of talks on art and criticism of their work by several well-known painters, and that their teachings had borne fruit was manifested in the 269 exhibits selected by the jury.

The extremely artistic mounting and framing was a feature of the exhibition. There were no large pictures to overshadow better art that was smaller. The sizes ranged from card and cabinet to eight by tens, with some very few excellent enlargements. The subjects were varied and reflected wide differences of mood and taste. The grouping was simple, unostentatious and effective. Seriousness and a spirit of high artistic endeavor pervaded the atmosphere of this latest offering of the Camera Club.

Twenty-five of the gems of the collection were grouped together as "class special." Some of these were especially good, notably "Miss P.," by W. F. Peabody; "Study of a Head," by Wm. P. Herbst; S. Bernice Gallaher's "The Author at Work," and "Portrait," by Edw. J. Daw. In this class some excellent landscapes were also shown, among which one of corn stalks, "Autumn Is Here," by Estell G. Mozart; "A Daisy Field," by John A. Massie, and "Sheep," by Mr. Peabody were very artistic and picturesque. The last shows a wonderful effect of light and shade—sharp contrasts without hard lines—and an unusually fine sky. "Homeward," by Charles E. Fairman, is an interesting picture, being what is known technically as a gum-bichromate print, and the only one in the exhibition.

Commenting on the future of photography, and the high quality of work shown by the club, Mr. James Henry Moser, one of the artists on the jury of selection, says:

"The amateur photographer is the man with a future. Lenses, plates, paper, and chemicals are about perfected. Drawing perfect as Bastien Le Page or Dagnan Bouveret is possible to the amateur by the mere touching of a button. It only remains for him to go to nature and bring back the message he finds there. Who can tell but a century hence old, worm-eaten prints, yellowed by time, will be treasured in museums as Rembrandt etchings are now. They will be pointed out as the work of this or that camera artist who flourished a hundred years ago, whose art lives because he had that divine spark in him—or it may be her,—called genius.

"Where the aim was once to produce a sharp outlined print, it is now to give a soft, wholly natural impression—to interpret rather than copy with microscopic fidelity. In order to accomplish these results the photographer must needs take into consideration perspective, light and shade, and composition, after having gained complete mastery of his material, for though there are instances always to be found of "accidental high art," in the long run it is the experienced worker alone who succeeds.

"The amateur is saved the brush man's tedious drudgery of drawing bit by bit his picture. Let him not forget that one of the compensations that comes to the painter, for this great labor which the camera artist is spared, is an intimate knowledge of nature, which is not less important in the great struggle to reach ideals than a knowledge of art itself. The public is interested, and great things may be expected next year. The Camera Club is full of life, and conscious that it is only at the beginning of its real career as an organization of artists. The present exhibition is a good one, and the promise of greater things next year is in the work of every exhibiter—a promise that will be more than fulfilled."

Winnipeg Camera Club.

The end of the third year of the Winnipeg Camera Club was celebrated by the opening of the first annual art exhibition, on Wednesday afternoon, April 17, continuing in the evening and on Thursday afternoon. Owing to the large attendance and hearty manner in which the citizens supported the exhibition it was decided that it should become a fixed feature for the closing of each year, as, owing to it being composed of art other than photographic, it does not make a call on the members right after the winter's slack work.

The annual meeting was held on Thursday evening, when the presentation of the Cox medals was made, Mrs. G. W. Fry being the winner of the ladies' medal, with a better average of points than the gentlemen, Mr. H. M. Marsden, a first-year man, winning the gentlemen's medal.

The election of officers resulted in the following gentlemen being elected: President, Mr. F. W. Drewry; treasurer, Mr.

Fred W. Gill; secretary, Mr. Gordon W. Johnson.

The club rooms are centrally located in one of the best blocks in the city, where the secretary will be found at home each Tuesday evening during the year.

The club extends a most cordial invitation to visiting members of other Camera Clubs to make full use of their rooms in the McIntyre block.

Chicago Society of Amateur Photographers.

We are requested to intimate that this society will hold its second Salon in the galleries of the Chicago Art Institute from October 1 to 22. They say "The purpose of the Salon is to bring together the best examples of the photographic work throughout the year, to be rigidly selected by a competent jury of photographers and artists." For further particulars, blank forms, and all necessary information application should be made to the Executive Committee of the Chicago Salon, the Art Institute, Chicago, Ill.

Since our last notice this society has been going along with its usual vigor. It has had loan exhibits by Miss Amelia Van Buren, Henry Troth and Dr. Charles Hadden Darker; several sets of interchange slides; criticisms on art by Charles Francis Brown; and illustrated lectures on "From the Lakes to the Atlantic," by W. C. Gage; and "The Cliff Dwellers," by the Rev. S. M. Johnson. We have to thank the secretary for notices of, and tickets for these entertainments, distance only preventing our availing ourselves of the courtesy.

The Marion, O., Camera Club.

The secretary writes us to say that at the recent general meeting the following officers were elected: President, E. O. Kennedy; vice president, Kendrick Turner; secretary and treasurer, F. S. Kieler; chairman of house committee, Clifford Owen, and chairman of committee on membership, E. B. Vail. He adds: "Our club, while young and not over large, have it all to learn by experience and the reading of good magazines. I may add that AMERICAN AMATEUR PHOTOGRAPHER is always eagerly sought for by us; we are enthusiastic, and what we lack in numbers we make up for in interest.

American Lantern Slide Interchange.

Montreal, Oregon and California Set.

MONTREAL CAMERA CLUB.

THE twenty-eight slides contributed by this club are the work of eleven members, considerably above the average, but with much room for improvement, especially in graduation.

W. M. SCHARF leads off with "The Theatre Francais After the Fire," 1, with no pictorial value and far too much bare glass.

CHARLES NOTMAN'S "Cleared for Action," 3, has the same serious fault. His "A Portrait," 25, is better, although too high in tone, and the effect on the screen is wonderfully improved by inserting along with it in the slide a slightly greyed glass. "Murray Bay," 17, is his best, and except for the slightly too high toned sky, is a fine slide.

CHARLES F. NOTMAN sends four fine subjects, all far too much on the bare glass side; even in an interior, "Spinning," 27, there is nothing between middle tint and the highest of high lights. Wheel, table, a newspaper on the wall, all are simply bare glass.

A. B. J. MOORE'S "St. Louis Gate," 16, is apparently copper toned, and very effective. "Quebec Harbour," 8, shows well because slightly fogged, and would have been still better had the fog been greater. The same may be said of "An Anchor," 4.

CAPTAIN ADAMS' "Darby and Joan," 11, is good technique, but it is a pity that the old couple were not made to show some interest in each other rather than in the camera.

J. H. FERNS' "Violin Maker," 18, might have been a fine slide, but everything on which direct light falls is bare glass. Fiddle, face, shirt, and work bench are all on the screen the highest of high lights. "The Horseshoer," 22, is a little, a very little, better, but the position chosen could hardly have been worse.

M. B. BETHUNE is high up as a slide maker, and sends three fine subjects, finely photographed, and without a trace of clear glass even, although representing frost and snow. "Hoar Frost," 15, is a beautiful slide. Equally so is "Garden in Winter," 21, the fogged sky giving

just the desired impression. "McGill College in Winter," 5, is true to nature, and in values, and, on the screen, makes one almost feel cold.

A. C. LYMAN'S "Sunset," 28, is the finest slide in the collection, and would rank high in any set; and, therefore, it is surprising that he should be satisfied with his other three, 6, 9, and 33, which have bare glass everywhere where bare glass should not be. They are good slides of the commercial type, but such as an amateur should not think worth mounting.

A. W. COLE knows the value of what is too often the bug-a-boo of slide makers, a little fog. His two slides, "Running Before the Wind," 14, and "On the Starboard Tack," 13, have just enough of it to give on the screen an impression of true technicality, and make them high-class slides. Very fine, too, is "Moonlight," 19.

J. J. MASON'S "In Winter's Garb," 10, is nearly faultless, and the same may be said of "The Turn of the Road," 12. It is frequently said that whatever else a slide may be it must be sharp, but this is a striking example to the contrary. It is almost "impressionistic" in its lack of definition, and on the screen it might be characterized as decidedly fuzzy, but the effect is simply charming.

To the slide makers of the Montreal Camera Club we would strongly recommend a careful study of the definition of what constitutes a good slide in our notice of Yellott's book on slide making in "Our Table" for this month.

THE OREGON CAMERA CLUB.

This club has also had 28 slides accepted, the work of 12 members; and bare glass where bare glass should not be is still far too much in evidence.

O. M. ASH leads with six, all fine subjects, and with just a little less fear of fog (which means with a little longer both of exposure and development) would have been record slides. They are indeed so nearly perfect that the greyed glass makes them on the screen almost so. "On the Duamish," 40, for example,

is an exquisite subject, largely spoiled by the clear glass water, and the nearly same sky. The interposition of the greyed glass largely removes those faults, and shows what might have been. In the same way "A Squall," 38, only needs lowering the unnatural white sky to be perfect.

MRS. C. E. LADD follows with five, mostly flower pieces, and slightly wanting in gradation. "The Path to the Clackamas," 31, is an exception, and sufficiently toned down in the sky to make it a fine telling slide.

T. BROOKE WHITE's four glacier slides are interesting, but without pictorial value, and their technique fine examples of the professional quality. Even in "record of fact" slides, the amateur should aim at truer values than the white and black of, say, "Mt. Adams," 48.

A. E. MORRIS has three excellent slides, excellent because he has not been afraid to expose and develop sufficiently. "The Perry, U. S.," 52, although a subject of no particular interest, at least from a pictorial point of view, is technically perfect.

C. M. COX's "Old Spanish Custom House," 32, is little better than clear glass, and "Among the Rushes," 50, is good material that might have been better used. The sky and the rushes wherever they are touched by direct light, are clearest of clear glass.

D. ELLERY's "There Were Just Two, etc.," 33, is simply white and black, and the face without a trace of texture; forehead, shirt and cuffs all equally bare glass.

T. BIRDSSELL's "Sandy River," 46, is a fine subject and finer slide, leaving hardly anything to be desired.

J. H. HOLMES' "The Relief," 53, is almost as good, indeed the motion of the steamer is as beautifully suggested as we have ever seen.

A. GARVIN's "Rooster Rock," 51, is both under exposed and under developed, and consequently a weak, glassy, unsatisfactory slide.

L. C. HENRICHSEN's "Indian Fisherman," 54, suffers from the same faults.

D. ELLERY's "Good Night," 56, makes a good wind up to the set, but an effort

might have been made to convey an idea of the figure being lighted by the candle she carries. It is a fairly good slide.

In addition to the advice given to the Montreal Club, we would recommend the members of the Oregon to carefully examine T. Birdsell's "Sandy River," and strive to work up to it, never forgetting that a slide with bare glass representing sky or water is not worth mounting, far less circulating.

CALIFORNIA CAMERA CLUB.

This club is well to the front with 64 slides, by 23 members, and although there is still much room for improvement, they show a very decided advance on previous contributions.

A. L. COOMBS leads with eight, mostly characterized by want of sufficient contrast. "Gardening in Japan," 84, being a type. The subjects are well selected, and had they been developed with a view to sufficient contrast, would have been a charming series. As it is, there is hardly anything but half-darks and bare glass.

W. J. PLATT has also eight, mostly with the same fault, although "Corpus Christi Sunday," 103, is an exception, and an excellent slide. So also is "Sunset," 101, a slide well worth working up to. It is difficult to understand how one, having made two such good slides, could let such a fine subject as "Seventeen-Mile Drive," 104, go out of his hands, so wanting in the necessary contrast. When he aims at the desirable contrast his slides will be things of beauty.

R. J. WATERS has two charming slides in "Mountain Meadows," 114, and "Mt. Shasta," 120, both worth working up to. His other two, while equally good subjects, are too much on the bare glass side.

W. G. STREET does not develop sufficiently. In "Surf, Santa Cruz," 87, he has missed a grand opportunity, as a little more contrast would have made this a gem. "The Long Chute," 92, is little more than clear glass.

OSCAR MAURER is uneven. Who ever saw a clear glass sky and a clear glass pavement during rain? And yet he so represents them in 80. Quite as faulty is his clear glass in "Chinese Beggar," 88,

while "Priscilla," 117, is a really fine slide.

E. G. ZEIGLE's "Mossbrae Falls," 118, is a telling slide in spite of its bare glass in the wrong place; and so is "Pacific Ocean," 115.

L. E. REA has two beautiful subjects in "On Napa Creek," 119, and "In Napa Co.," 93, and while they show fairly well on the screen, they would be immensely better of more contrast.

C. W. THOMPSON's "Shag Rock," 96, is much too thin, and so is the "Dock Scene," 95, but "Sailing for Nome," 94, nothing beyond record of fact being the object, is an excellent commercial slide.

O. V. LANGE's four flower slides are hardly up to the average of that class of work, and on much too large a scale. He should remember that a plant, or, indeed, any small natural object, and this is especially true of portraits, that nearly fills the 3x3 opening of a slide, becomes a monster when shown on a ten or twelve foot screen.

A. A. MARTIN's "Orchard," 65, is too feeble, too gray on the screen. "Klondyke Baby-Carriage," 64, is better, and better still is "Moving," 63, but for the all too much bare glass.

Mrs. C. E. BALDWIN's "Porcupine Point," 62, is a fine slide, and would have been finer with truer values, the stones and rails, indeed wherever direct light falls, being bare glass.

C. WEIDNER's "Fortune Teller," 76, and G. C. Meeker's "Chinese Shoemaker," 77, are good slides of the commercial variety, and consequently very false in tone; but his "Rustic Bridge," 74, and "Sunol Creek," 75, are both fairly good, and needed only further development to be of a very high class.

A. L. DENISON's "In Manila Harbor," 69, is a fairly good slide, but 70 and 71 are too much on the clear glassy side, hardly up to the ordinary commercial standard, and the same may be said of W. F. Tolchard's "Old Adobes," 72.

T. H. d'ESTRELLA's "McCloud River," 60, is as fine a subject as is in the set, and the slide just such as "brings down the house" with a popular audience, but it might have been very much better, sky and water being merely bare glass.

A. G. MCFARLAND's "Cæsar," 102, is

also much too thin, and "Hauling Logs," 112, is a fine slide spoiled by bare glass, sky and water.

E. F. VERRILL's very fine subject, "Upper Truckee River," 68, has the same fault, although hardly to the same extent.

D. J. FOLEY's "Old Indian," 61, is also thin from under development, and so, even in a greater degree, is B. D. Chilson's "Chinese Study," 73.

F. J. CLUTE, in "Drawbridge," 58, and "Truant," 59, has too fine slides spoiled by bare glass.

A. N. CROWELL's "Roses," 57, are far too large, bringing out the suggestion that they are "cabbage" and have an unfortunate background that on the screen looks like pronounced cheesecloth. As flower photographs they are not up to the average.

Notwithstanding the fact that the slide makers of the California Club are well to the front amongst the slidemakers in the Interchange, and that the slides bear abundant evidence of having been made from good negatives of well-selected picturesque subjects, we are disappointed with them. The making and exhibiting of slides has so long been an important feature in the club that we expected more; expected better technique, especially better gradation, without which no slide should be allowed to leave the hands of the amateur. On second thought, however, it may be that exhibiting in public is the real cause of the lack of advancement. We know that it is the bright clear white and black slide that in the popular audience "brings down the house," and it is just possible that in catering to them the California slidemakers have forgotten that it is with slides as with any other form of art production, only the cultured can appreciate true pictorial effect. As we have said over and over again, although nature is not art, art should not violate nature. Clear glass on the screen represents the highest of high lights. In nature they are as rare as are the deepest darks, and in a slide they should be as rare. The professional slidemaker tries to cater to the tastes of his customers, but the amateur has only himself to please, and a slide in which sky or water is represented by bare glass should never reach the mounting stage.

Answers to Correspondents.

Correspondents are requested to notice that communications intended for the editors should be addressed to Dr. John Nicol, Tioga Centre, N. Y., from June 20th to September 10th to Point O' Woods, Long Island, N. Y.

W. H. FOSTER.—The getting of dark tones depends more on the density of the negative and the depth of printing than on any particular toning formula. The various stages through which the prints pass, according to your description, is as it should be, and without the potassium citrate, which we have never tried, and if the negative and printing are as they should be, the ultimate results will be fine dark purples. If you *must* have blacks, why not have resort to some of the so-called gaslight papers?

DR. J. G. GRANT.—(1) Our "Companion" in our drives, and especially at our summer home by the sea, is the Bullard, and the lens, that supplied with the camera, a very good rectilinear of about $6\frac{1}{4}$ in. equivalent focus; but for once that we use it in the hand we use it ninety-nine times on the stand. The subjects and conditions are few and far between in which a snap will give a negative worth printing. (2) If your Goerz is anything between 6 and 7 inches they can fit it into the Bullard, but for purely pictorial work we do not think it would be better than the lens usually fitted to the camera. We may add that the magazine has never once failed to respond to the draw. We cannot say without knowing the focus of your Goerz at what distance with $f/16$ all beyond will be in sufficiently good focus. That is a feature in which all lenses are alike. (3) By tank development the plates generally come out full of detail, but much too weak for printing. They are then dealt with separately, some with a developer of normal strength, in which they will take on printing density in a few minutes, others requiring simple intensification by any of the ordinary methods. Agfa is both good and convenient, but those to whom money is an object will find the formula in the "Contribution Box" on another page equally good and much less costly, a matter of importance where large quantities are used.

C. C. TYLER.—We cannot think that the markings are caused by the backing,

as we have backed for thirty years, and generally with the backing you are using, and never found them. Nor are we at all particular as to the backing being in streaks or brush marked; indeed, we apply it as roughly as may be with a sponge, taking no care to soften or smooth it. Try half backing several plates and exposing them on suitable subjects, so as to settle the question experimentally.

R. WILLARD.—Yes, we have occasionally found the copper toning to leave a stain in the whites, and as you say, with the same formula and the same paper, without being able to assign a cause. The cure will be found in a slight addition of the citrate solution.

T. M. JARDINE.—It is more likely that the ground glass and the plate in the holder are not in register than that the chemical and visual foci of the lens by such a popular maker are not coincident. Before sending the lens to us remove it from the camera, and with the ground glass in position, pass in through the flange an ordinary two-foot rule till it touches the glass, and note the point at which it touches the edge of the flange. Remove the ground glass and put the holder with a plate in its place. Pass in the rule in the same way, and if it touches the flange at the same point send on the lens; but if it does not, which is most likely, the remedy will be found in the readjustment of the ground glass.

T. R. BRODIE.—Thanks for the suggestion; we can see its importance in relation to stronger stand development, and shall try to work it out as soon as time will admit. In the meantime some of our readers who are inclined to experiment might try their hand at it.

The problem is, what, if any, is the relation between the time of the appearance of the image and various dilutions of the developer? For example, suppose that with a normal strength the image appears in fifteen seconds, how long will it take to appear when diluted with, say, ten, twenty, forty and sixty parts of water? and does the developing factor remain the same throughout the dilutions?

ANNA GORDEN.—Why be content with thinking that your scale must be wrong when with a few exposures you can so easily settle the question for yourself? Expose a plate on each of the carefully measured distances marked on the scale and develop.

T. F. LEE.—We doubt whether plates that have got such exposures can be saved, but the following is worth trying. Make a developer containing in each ounce, 5 grains ortol, 2 grains potassium metabisulphite, 10 grains sodium sulphite, and 2 grains potassium bromide. Soak the plates in this for a few minutes, and if the image does not appear add a few drops of a 10 per cent. solution of sodium carbonate. Further additions of ortol or sodium carbonate may be made as indications suggest, and if sufficient time is given fairly good results may be obtained.

L. ST. JOHN DALZIEL.—Thanks for encouraging words. Art, as represented by pictorial photography, is mainly or largely a matter of taste, and our criticism on that phase should be taken only for what it is worth, as merely the opinion of one man; but when it comes to photographic technique, a pretty close connection with both its theory and practice for over fifty years gives us a right to think that we know something about it. Of the three lenses named, the first will suit your purpose best simply because of its longer focal length. The shutter is a matter of secondary importance, indeed for pictorial work we never employ anything but the cap. Wynne's promised new speed list of American plates and films has not yet been received, but we are in communication with him on the subject, and shall give our readers notice as soon as it comes. In the meantime you may find the speed number of the plates you employ by the method given in our appendix to a letter from a correspondent on another page. The particular formula for backing is of little importance, it being only necessary to destroy the reflecting surface. It should dry quickly and thoroughly, be easily removed by a damp sponge, and not liable to come off in powder or dust.

C. H. D.—If the lens is really slower by at least a third than it was two years ago, it can only be because of coloring of the balsam, and there is so little of that that it is hardly conceivable. If it is in the least yellow you had better

send it to an optician who will recement it for a trifle.

H. H. SANDERSON.—Hard rubber is better for stops than brass, and quite as easy to work. Get a sheet a shade thicker than the slit in the lens mount, cut and file it into shape, and make the openings with brace and bit, each bit just a little smaller than the opening is to be. Open them to the desired size with a countersink, and grind with oil on a flat stone till it slides easily into the slit.

SARAH MILNE.—Yes, excellent lantern slides may be made by contact printing. In making negatives for the purpose with your 4 x 5 camera, pencil-line a square on the ground glass of 3 x 3 inches, and confine the subject to that size. See that the negatives are as sharp as the lens will make them, and expose and develop for detail and gradation rather than for contrast. Never forget that there is little of either white or black in nature, and that there should be as little of either in a slide.

CLINTON A. WRIGHT.—You have been correctly informed. Where the elements of a compound are symmetrical, that is, when the front and back lenses are alike, as in the lens referred to, the single lenses being each about twice the focal length of the doublet, the stops have only half their relative value. $F/8$ with the doublet becomes $f/16$ with the single lens, and consequently requires four times the exposure.

W. Z. HUTCHINSON.—The area of sensitiveness of the ordinary plate is confined mainly to the blue and blue-violet end of the spectrum, and is very slightly sensitive to the green and red and their combinations, while the orthochromatic, equally sensitive to the blues, has its area extended up through the green, yellow and orange, and even, in some cases to the reds. The object of the ray filter is to reduce the activity of the blues to something like the actinic value of the combinations of the greens and reds, as increased by orthochromatizing, and so render the various colors in something approaching to their various degrees of luminosity. The reason, therefore, why an ordinary plate with the ray filter requires thirty-five times the exposure necessary for an orthochromatic plate under the same conditions is that its sensitiveness, being confined to the blues 35 per cent. of that has been absorbed by the filter. To put it in another way,

an ordinary plate is sensitive only to the blues, *and is affected only by the blue in the white light reflected from the surfaces of objects in red and green.* When 35 per cent. of those blues are absorbed by the ray filter a very long exposure is required to give anything like the luminosities of the reds and green, especially

as they should be rendered much lighter than the blues. On the other hand, the orthochromatic plate, in addition to the white light reflected from their surfaces, is more or less sensitive to the colors themselves, and that sensitiveness makes all the difference between the exposures and should solve your problem.

Recent Patents and Trade Marks.

The following digests were furnished by Messrs. Davis & Davis, patent attorneys, of Washington, D. C., and at St. Paul Building, Broadway and Park Row, New York.

W. B. BUNNELL, Scranton, Pa.

Flash Lamp. No. 665,504.

A powder pan is placed on a base, and is provided with a central rigid roughened projection. A vertical shield is erected adjacent this powder pan, and a match thrusting device is located back of the shield, and is adapted to thrust the match through the shield, into contact with the roughened projection in the powder pan.

BENJAMIN DAY, West Hoboken, N. J.

Safety Adjuster for Printing Films. No. 666,087.

A table is proved with guides extending from front to rear, and on these guides are mounted sliding standards. Means is provided for clamping these standards in position. Connecting these standards is a horizontal bar, on which are mounted depending printing frame holding devices, whereby the frame may be adjusted over any part of the table between the guides.

EBERHARD SCHNEIDER, New York City.

Photographic Printing Machine. No. 666,396.

A positive film is mounted on a drum in a dark chamber, and a corresponding drum is provided to support the negative film strip. The two films are brought together in the dark chamber, and a shutter is provided by which the exposure is made. The drums are intermittently driven, and the shutter is operated to open when the films are stationary.

FREDERIC E. IVES, Philadelphia, Pa.

Color Photography. No. 666,423.

The method of securing graduation of light and shade in diffraction line photograph prints, which consists in interrupting the impression of the diffraction lines by casting linear or granular shadows upon or in the sensitive surface during the operation of impressing the diffraction line images.

FREDERIC E. IVES, Philadelphia, Pa.

Color Photography. No. 666,424.

As a means of imparting the proper colors to the color records of a photographic

image, appropriately colored sources of illumination, a transparent screen receiving the light rays therefrom, and composed of elements each formed to parallelize differently colored rays transmitted therethrough, a lens interposed between said sources of illumination, and a screen, and a lens interposed between said screen and the point of view.

HERMAN CASLER, Canastota, N. Y.

Consecutive View Apparatus. No. 666,495.

The flexible picture strip is moved by a continuously moving feed mechanism, which frictionally engages the strip, and an intermittently operated catch is arranged to grasp the picture strip at intervals corresponding to the distance between the pictures.

ALBERT WERNER, Arena, N. Y.

Portable Dark Room. No. 666,988.

A box is provided with opaque sleeves and an opaque hood. Suitable small boxes are provided, which slide into the larger box. The usual ruby light is mounted in one of the sides of the main box.

F. H. KENYON, Barre, Vt.

Negative and Print Washer. No. 667,020.

Within a receptacle is placed a holder which comprises a series of trays arranged tangentially to the axis of the receptacle, and provided with means for holding the plates or prints spaced apart. Means is provided for giving the washing water a rotary motion around the receptacle.

E. L. DOYEN, Paris, France.

Apparatus for Perforating Photographic Bands of Films. No. 667,118.

The band is intermittently fed through a guideway to a tool for perforating it, the tool being also operated intermittently. The tool operating and band feeding means are operated simultaneously.

E. L. DOYEN, Paris, France.

Photographic Apparatus. No. 667,618.

A cam and a crank disk are rotated simultaneously but at a different rate of speed, and an indented strip of film is fed to the apparatus, the cam and crank-disk operating means which intermittently move the strip past the shutter mechanism.

E. R. BULLARD, Springfield, Mass.

Locking Device for Lens-Carriages of Cameras. No. 668,090.

The carriage comprises a base-part adapted to slide on the camera bed and another part adapted to slide transversely on the base-part. A locking device is provided for locking the base-part to the bed, and another locking device secures the slidable part to the base-part.

F. J. MCCARTHY AND C. MCCARTHY, Ogden, Utah.

Multiplying Plate Holder for Camera. No. 668,532.

Within a single plate-holder is mounted a rotatable frame to receive the plate, a rod being connected to said frame to rotate it. Two slides are provided for the plate holder, the inner one having a hole therein smaller than the plate in the rotat-

able frame and to one side of the pivot of said frame, whereby successive portions of the plate may be exposed.

W. H. FISHER, Cincinnati, Ohio.

Photographic Apparatus. No. 668,577.

Automatic electric devices are provided which pull the trigger of the flash-light gun and simultaneously open and close the camera shutter.

E. N. BENHAM, Montclair, N. J.

Binding Strip for Lantern Slides. No. 668,615.

The binding strip has a longitudinal double fold or crease at its center, and has triangular notches in its edges at distances apart equal to the lengths of the sides of the plates on slides to be bound.

J. F. STANDIFORD, Fort Scott, Kan.

Multiplying Photographic Camera. No. 668,888.

Slidable across the field of exposure is a carrier for holding the plate or plates, and operated by said carrier as it moves across the field of exposure is a mechanism for opening and closing the shutter each time the carrier is moved a predetermined distance.

L. J. VOGT, Rochester, N. Y., assignor to Vogt Optical Co., same place.

Photographic Shutter. No. 668,965.

The shutter is formed of apertured blades which are connected to the usual operating levers for opening and closing the same. An independent lever is connected to the blades to open the same and hold them open.

F. E. IVES, Philadelphia, Pa.

Photochromoscopic Apparatus. No. 668,989.

The invention consists of the combination of a casing means for projecting an image, a series of inclined primary reflectors disposed one behind another in the same line, two of said reflectors being transparent, and a series of secondary reflectors disposed one behind another in a line which is diagonal to that of the primary reflectors, each secondary reflector being inclined at an angle different from that of its corresponding primary reflector and in the same plane.

TRADE MARKS.

KIRK, GEARY & Co., Sacramento and San Francisco, Cal.

Dry Glass Photographic Plates. No. 35,629.

The word "Pacific." Used since October 1, 1890.

W. E. PECK & Co., New York, N. Y.

Photographic and Optical Goods. No. 35,935.

The word "Pecto."

L. J. R. HOLTS, New York, N. Y.

Wide Angle Photographic Lenses. No. 35,881.

The word "Hypergon."

"A PRETTY MAID OUT STROLLING WENT, ONE EARLY SUMMER DAY "
BY
W. E. COGSWELL.

(See Portfolio.)

THE
AMERICAN AMATEUR PHOTOGRAPHER.

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NO. 7.

Exhibition Pictures.

BY RICHARD BURNETT.

THE fact that the editors of THE AMERICAN AMATEUR PHOTOGRAPHER recently gave us what may be called a hand camera number is not, I suppose, to be taken as an indication that they have departed from their long time teaching as to the limitations, the use and abuse of that popular instrument; and their belief, frequently expressed, that ninety-nine per cent. of hand camera exposures never get, or never deserve to get beyond the developing dish

As the season advances a stroll through the parks or through any of the popular summer resorts will show that every tenth man or woman, and especially the woman, will be carrying a camera, generally called a "Kodak," altogether irrespective of whether or not it was the product of the Kodak Company; and every man and woman, and again especially the woman, will be seen to be snapping at everything within their reach, without thought, as it is without their knowledge, of the limitations of the instrument they carry. Little wonder that few of the results of such snap-

ping ever reach the public eye, and that fewer still are worth looking at when they are shown.

But this is the abuse, not the proper use of the hand camera; as if used according to the teaching of THE AMERICAN AMATEUR PHOTOGRAPHER, its results may be fit to take their place on the walls of the highest class exhibitions. But the foundation, that is the negative, for such results is never made by careless snapping, and rarely by the camera in the hand. The selection for such negatives is the result of care, study and consideration; and the composition and exposure the outcome of considerable experience. The true artist knows what he wants,

No. 1262 *

By J. D. Johnson.

"ON THE OWASCO."

recognizes it when he sees it, and, seeing the end from the beginning, gives such treatment as shall best lead to the desired goal. In nine cases out of ten the camera will be placed on the stand no matter how short the exposure is to be, and if a landscape, the true photographer will wait till the passing shadows fall just as he wants them, or if a portrait, till he catches the desired expression.

It is not unusual for the exhibition prospectus to say that the size of a picture makes no difference, that small pictures stand the same chance as

* 1262 J. D. JOHNSON.—"On the Owasco." There should be the making of a picture in this subject, but you have not caught it, and the faults include both omission and commission. We cannot find a motive or an objective point. The eye is at once caught by the figure, but only to wonder what she is doing there, aimlessly staring into the water. Figures in landscape are always risky, and should never be introduced unless for a recognizable purpose, which certainly is not here. And it would have been worse had she been, as you suggest, without the hat. Women do not usually lean alone beside a river without their hats. Then, the general effect is tame, without contrast, the lights and shades, instead of being massed and contrasted, are scattered all over the print, while water, and the foreground is mostly of that, is represented by white paper, or at least whiter than water should ever be. The photography is good, but has been done at the wrong time; such subjects should be studied under all kinds of lighting and photographed only at a time when the lights and shades can be massed and contrasted instead of as here, scattered all over the print. Equally necessary is it to have some objective point or object to claim attention and to which all else is made subservient. The figure here is prominent enough for that; but as she is perfectly aimless she had much better been left out. How easy it would have been to make her reaching out, even if it was beyond her reach, to pluck a flower, and that would have made all the difference between success and failure.

large ones, but those who have acted as judges know better. The decision of the honest judge is affected by the way in which the pictures appeal to him, and the fact will not bear discussion, that to most judges at least, of two pictures of equal or even only nearly equal merit, one being, say, 12 x 10 and the other only 4 x 5, the larger will bear the palm every time.

Taking it for granted, then, that the exhibition pictures are to be enlargements from 5 x 4 hand camera negatives, the one thing essential in addition to those already mentioned, is that the negatives shall be perfectly sharp, and that, altogether irrespective of what may be the ultimate desire

of the photographer regarding definition or any of the other qualities generally supposed to be included in pictorial quality. The negative to be enlarged must not only be as sharp as the lens will make it, but must also have true values; be full of delicate gradation, with sufficient detail in everything but the deepest of deep shadows, and not in any sense opaque to light in anything but the highest of high lights, neither of which are found, to any extent at least, in any good picture.

To secure those qualities the photographer must not spare the plates. Not that he will expose on many subjects, indeed the fame of most of our famous photographers arises from rarely

No. 1249 *

By S. B. Challinor.

"THE RAG-SORTER'S REVERIE."

1249. S. B. CHALLINOR "The Rag-Sorter's Reverie," an old man with wrinkled forehead has stopped in the middle of dissecting an old garment, evidently trying to give it an imaginary history, has some good qualities and some that might have been bettered. The conception is admirable, and the feeling of rest well sustained. The pose and arrangement are both good, especially the lines leading to the characteristic face; but the values might have been better, the tones of both face and arms being too high. Flesh is never correctly represented, when they are, as here purely white. A lighter background would have been better, and the want of some indication of separation between it and the figure is a serious fault. Then, in a reverse, the eyes should have been directed downward, made to rest on the garment, rather than to look out towards the photographer; shut out in fact to all but the thoughts within. A longer exposure would have enabled you to develop all the detail in the shadows without getting the flesh beyond its natural tone; and a lighter background, especially if shaded, would have prevented the feeling that the figure has been cut out and pasted on it.

more than three or four pictures in a year, but when he has found a subject that he feels to be in every way suitable he will peg away at it till he is sure that he has got it to his entire satisfaction. In spite of his confidence in the plate speed and the correctness of his exposure meter, he will not hesitate to expose three or four plates or films, some for shorter and some for longer than the indicated time; and three or four more might be well spent on various styles of lighting if he is not quite sure of either what he wants or in what aspect the subject will be at its best.

No. 1265 *

By Sir Vere Gould.

"THE NEW COOK."

Having secured a suitable negative the next consideration is how best to en-


large it; and there cannot be a doubt as to that when the ultimate prints are for exhibition purposes. It is to first make an enlarged positive in the camera and from that a negative by contact printing. The enlarging camera may be a simple box, as described so well in the June (1900) number of this magazine, page 248, and which may be made by any ordinary carpenter for a trifle; or, where money is not much of an object, for an outlay of \$12.00 one with every convenience may be purchased.

For the making of the positive a slow plate is best, such as Carbutt's 15, as being of finer grain, having greater latitude, and being altogether easier managed than the more rapid brands. The exposure must be full and the development such as to reproduce every detail that is in the negative, while at the same time nothing but the very deepest of deep shadows, *if there be any such*, should be opaque to the light by which the enlarged negative is to be printed from it.

* 1265. VERE GOULD. "The New Cook" is good, both in design and execution, although the negative has been rather weak to give the best kind of vigorous print. The lighting is effective although somewhat hard, and a backed plate would have given a better rendering of the window from which it comes. Longer development with a solution weaker in reducer would have given a better quality of negative.

And it is here that the advantages of the enlarged positive come in, and where the photographer who is also an artist can work his will in reference to the ultimate result. Lights and shadows may be strengthened or weakened; contrasted or harmonized; parts emphasized or subdued; or, indeed, "faked" to any desired extent so long as the faking is not seen in the result, and as it is done on the full size rather than on a small scale to be subsequently enlarged and so made more visible; and especially as the lights and shadows are in their proper places and the operator sees what he is doing, he may work with a tolerably liberal hand without being found out.

A plate of the same kind that was used for the transparency will do equally well for the negative, or if a slight grain be no objection, it may be made on albumen paper, or perhaps better still, on the more recently introduced Silver Phosphate paper. With both I have been fairly successful, and indeed prefer the latter to even the plate. The negative, whether on



paper or glass, may be wrought on where necessary to produce any desired effect, and when finished may be printed by whatever printing method is found most suitable; which for exhibition purposes will probably be platinum, carbon, or gum-bichromate. If the negative is likely to be much used for carbon printing it would be well to make it from the positive on carbon transparency tissue, printing deeply and developing on a plate of glass, so that it may be employed in single transfer, that is, will give non-reversed prints without another transfer.

"A DAY'S WORK ENDED."

By A. Montant

On the Use of Backed Plates.

BY RALPH W. PAGE.

MY reply to the editor's "Tell us what you know about backed plates" may be summed up in a few words: Those who recognize halation when they see it and who have fully realized the value of backing will never again use an unbacked plate.

But that there are many who do not so recognize it, and who are ignorant of the object and effect of backing is shown by the frequency with which it is said to be prevented by the placing of black cloth or paper *behind* the plate during exposure; and it is mainly for such that this is written.

Halation has several causes, some of which may be obviated by suitable exposure and development; but the main cause is reflection from the back

"WHAT TIME DO WE GO HOME?"

BY

HENRY POPP.

No. 1269.

1269 HENRY POPP. "What Time Do We Go Home?" is a pretty little photograph, in spite of several serious faults. A couple of children in a field of dandelions that have passed into the seed stage, the girl holding one of the stems for the boy to blow, an old, old method of ascertaining when to go home. Subject, arrangement, the different expressions of the children, the girl's incredulous smile and the boy's serious effort, all combine to make a really pretty picture. But the values are far from true, the sky is simply staring white paper, catching and keeping the eye from the less obtrusive beauty. A minor fault is the straight horizontal line above the heads, and an almost equally straight sky line, both of which might have been obviated with advantage. With truer values, which means a suitable exposure, and especially a toned down sky, this might have been very much better.

of the plate, and that can be prevented only by backing in optical contact. Those who seek to prevent halation by simply placing black velvet or other similar material behind the plate act on the mistaken assumption that the light which does the mischief is that which has *passed through* the plate, and that by some means—which they would find it difficult to explain, it is sent back through the glass to the film unless absorbed by their device. But it is not the light that has *passed through* the plate and that could be so absorbed, but the light that is passing and that is caught by the surface of the glass and reflected or sent back to do its work on the film; and this can be prevented only by something that will destroy that reflecting surface; something in the shape of backing in optical contact with the back of the plate.

Much has been said of the necessity of having a backing of the same refractive index as the glass, and there may be something in it, although I have never been able to see any difference in the result between that which was and that which was not. The one essential is the destruction of the reflecting surface of the back of the plate, and that can be done apparently

by almost anything that can be brought into perfect optical contact with it. While almost anything in the shape of a thinnish paste or a thickish paint will do, some things are better than others. It should be easily applied with a sponge or brush, dry quickly, not come off in the shape of dust, and be easily removed by a damp sponge. The following answers well: Three parts of dextrine mixed with one part of finely powdered burnt umber or sienna, and made into the necessary consistency with a mixture of equal parts of alcohol and water. The addition of a very little glycerine, just enough to keep the backing from powdering when dry, is an improve-

NO. 1238.

By A. G. Graff.

"THE BLACKSMITH"
(See June Portfolio)

ment. In applying it I use a simple backing frame, by which the operation is facilitated, the hands kept clean, and no chance of getting any of it on the front of the plate. It consists of a board a little larger than the largest plate that I ever use, cross ended to prevent warping, and covered with black velvet. To this is hinged a frame so constructed as to carry sheets of card just like cut out mounts, the opening in each a little smaller than the plate with which it is to be used. The plate is laid on the velvet covered board, the frame with the suitable opening shut down, and the backing applied; a dozen being backed and dry in almost as short a time as it takes to tell how it is done.

There is a very general impression that halation appears only where the camera has been pointed to a window or where branches come against a bright sky, but the fact is that the majority of photographers do not know halation when they see it, at least only when it is in excess, and will not do so till they have seen two negatives of the same subject taken at the same time, but the one on a backed, the other on an unbacked plate. When they have carefully examined the result of such an experiment they will, as I have said before, never again use an unbacked plate where technique is the object.

No. 1200 *

By Carl C. Distler.

"CHILDHOOD."

The pictorial photographer may say that he wants neither definition nor crispness, and that a slight degree of halation does no harm to him, but he is mistaken. Whatever he wants or does not want should be got by his own volition and not through the imperfection of his plate.

I do not, of course, hope to convert photographers generally to the idea of universal backing, nor is it perhaps of supreme importance to those whose aim is direct pictures only; but I do hope that those, and they are becoming more and more numerous daily, who make small negatives for enlargement, and who make lantern slides or transparencies, will at least make the experiment, and for those who will do so I predict without hesitation that they will never afterwards make either on an unbacked plate.

* 1266. CARL C. DISTLER. "Childhood," a semi-nude child leaning on a table, her head resting on her chubby hand, is of excellent technique, but not impressive from a pictorial point of view. There is a feeling of incompleteness, a want of motive for the arrangement, or that it is a study of a part of a larger and more intricate picture. The most that can be said in its favor is that it is an example of good technique.

Working On the Back of the Negative.

BY G. I. TAYLOR.

WHILE it is true that correct exposure and suitable development will give fairly true values and satisfactory gradation, it is no less true that there are no negatives that may not be improved by working on the back by those who know just what they want and how to get it.

One of the oldest methods is to cover the back with papier mineral or other translucent and grainless paper, and cutting such parts out as needed to be darkened, and lightening others by lead or color. This answers fairly well, but the following varnish is in every

No. 1257.*

By F. E. BRUNSON.

"A FLOWER STUDY."

way more convenient and gives much better and more satisfactory results:

Gum sandarach.....	1 ounce.
Gum dammar.....	1 "
Ether	10 "
Benzole	5 "

Dissolve the gums, or as much of them as will dissolve, in the ether, and filter or decant carefully from the residue. Then add the benzole, more or less from the prescribed quantity according to the coarseness or fineness of the desired surface of the varnish. It is to be used cold but otherwise applied just as the hot negative varnish, *i. e.*, pouring a pool in the center of the plate, letting it flow from corner to corner and pouring it from the last back into the bottle. It will dry and be ready for work in a few minutes.

* 1257. F. E. BRUNSON. "A Flower Study" is an improvement on any of your previous indoor work. Indeed it only needed a shade less hardness, a little more light reflected on the right to make it really excellent. The expression on the little face, the apparent interest in the flower, is capital, but the dress looks a little stiff, a little too much as if put on for the purpose, to please us. The portraits of children are never so good or so natural as when they are taken in well worn dresses, old enough and soft enough to fall into natural folds and need no arranging.

But just what that work will be the photographer himself only knows; and unless he does, and also how to do it he had better leave it alone. To begin with, the only thing that the varnish has done is to add density as a whole to the negative, to increase the length of time required to produce the effect on the print without in any way altering the relation of one part to another. But it has given a new power, the ability to alter those relations to almost any extent; and that power will be still greater if the varnish be colored to a greater or less degree. Indeed it is well to keep on hand several bottles of various strengths of color, keeping in mind that the higher the color of the varnish the greater will be the possible degree of contrast obtainable. For coloring nothing is better than the resin known as dragon's blood.

While the photographer must know what he wants and how to get it, it may not be out of place to suggest a few things that may be done on a negative so varnished. According to the editor's admirable work in "Our Portfolio," the besetting sin of the modern photographer, at least the snap shot variety of him, is under exposure, and while nothing will make a good picture from an under exposed negative, a little work on its varnished back will very much improve it. Here the contrasts are too great, everything on which light has fallen being white from pushing development while everything merely in shade has not even by that forcing been made other than black. A colored varnish is here indicated; sufficiently colored to lighten sufficiently what should be the lightest shadows, and the film should be scraped

No. 1268.*

By H. M. Story, Jr.

"BOTH SIDES OF THE QUESTION."

* 1268. H. M. STORY "Both Sides of the Question," front and back views of a little boy in probably his first overalls, can hardly be said to be pictorial. It is an example of that class of child photography that is more interesting to the parent than charming to the public. The position and dress of the little fellow suggests more the idea of restraint and the having been gotten up for the purpose, than the charming freedom and naturalness of childhood. It, or rather they, for there are two prints, are just the kind of thing that evolves from aunts and their feminine friends the well-known expression, "O how cute," but possess little or none of the delightful charm of children photographed when at play or when left to themselves. The photography is only fairly good, more careful development and probably a longer exposure would have given some much needed light and shade in the waists and truer values altogether.

away from every object that is already light enough. A too flat negative may be treated in the opposite way, contrast being given by scraping over the too much lighted shadows and leaving the varnish over the all too low toned lights. Negatives may be thus broadly treated in patches of color and stump, or in lines and smaller objects by the scraper and pencil. In this way clouds that are scarcely indicated may be given the desired prominence, the lights and shades in drapery strengthened, and even the usual cotton wooly waterfall brought to something like a true representation.

No. 1088.

By Sir Vere Gould.

"THE NOVICE."

(See January Portfolio.)

Of course to work on the back well needs practice, but how little is known only to those who have tried it ;

while the magnitude of its possible improvements is worth more, much more than all the care and study required to work it at its best.

Hand Camera Work.

BY WALTER SPRANGE.

I THINK there are two primary general principles to observe in landscape and marine work with hand cameras. One is to focus on distant objects and ignore objects in the foreground, and the other to focus on objects in the foreground and ignore distance, the choice of either method depending upon the subject. If the objects in the foreground form the subject of the composition, such as boats, cattle, or even human figures, it would seem better judgment to emphasize the fact by focussing on them from a point near enough to throw distant objects slightly out of focus. On the other hand, very often pleasing results can be effected by focussing on distant objects and ignoring objects in the foreground. Such as a vista through trees, or views taken under a piazza, or from a lofty steeple or elevated balustrade or terrace, in which a suggestion of the piazza, steeple, balustrade or terrace is included in the foreground, to form a margin which will give a more realistic effect to the entire composition. For often such foregrounds are cut off, either before photographing, or else before the print is mounted, because they are not in focus.

The Geneses of a Prize Picture.

57 AS a knowledge of the evolution of a much admired and prize awarded picture will be helpful to those who are struggling for like honors, we have pleasure in extracting the following from *The Amateur Photographer*. We are sorry we cannot reproduce the picture, but, originally printed on rough paper, the reproduction suffers considerably and would suffer still more by a second engraving.

The scene is evidently in front of a village smithy, although only several cottages and an outside stair are visible, and in front of them half of a wheel with the blacksmith in the

"AN INDUSTRIOUS DOMESTIC."

act of cooling the tire, "Ringing a Wheel" being the title. The picture received the premier award in the open class at the Edinburgh (Scotland) Exhibition, where it was universally admired, and was also a prize taker at the Dublin Exhibition. The authoress is Miss Christian H. Curle, a member of the Edinburgh society, who writes:

"This figure study can claim no more distinguished origin than what was considered, at the time it was developed, a waste plate: the most unsuccessful of several snap-shots taken one summer's day at the smithy door. Though taken with a half-plate camera on a tripod, they could only be considered "snap-shots," from the reckless haste in which they had to be done. Elaborate posing and focusing were out of the question. Such an operation as "ringing" a wheel allows of no leisurely photography. There is little time to spare, and not much room anywhere near for the camera. The heated and expanded iron, after being put on the wheel, is cooled by having water poured over it till it contracts to exactly the right size, a matter of nice calculation. The wheel being meanwhile revolved, it is hammered into shape, each rush of water, each blow of the hammers raising clouds of steam, which, mounting up, silhouette the figures of the men at work, and gradually melt into the sunshine.

"The original plate had three men in it, but of these two were in such awkward positions that it was thrown aside as useless, and not till a year later did it strike me that something might be made of one half of it. The

promising half was enlarged and printed in platinotype, the result being rather gray and flat. Several critics pointed out that, probably owing to foreshortening of his body, the blacksmith's legs seemed abnormally long. The only remedy for this which suggested itself to me was to draw more attention to the upper part of the picture. So, by means of a few touches with a stump on a backing of tissue paper, a little more light was thrown on the steam, with the result that the head and shoulders were shown in bolder relief, and so gained in importance. I next made a reversed negative for single transfer, and printed it in brown carbon on rough, toned, etching paper of a creamy tint, leaving a margin of the paper. Finally, taking the advice of yet another clever critic, I stained the whole a deeper tone, with coffee, and considered it gained greatly from the more mellow coloring this gave it, and the greater suggestion of yellow sunlight which it threw into the picture."

We quote this as a timely hint to our readers. The effect of a chance snap shot may not be pleasing, but isolated from its jarring surroundings may be the subject for a prize picture. Look up your discarded negatives and prints, use a knife freely and let us see some of the results.

No. 1162 *

* AVENUE OF PALMS. *

By E. M. Miller.

* 1162 E. M. MILLER.—"Avenue of Palms," Eastlake Park, Los Angeles. This is a little out of your ordinary style, but a fine subject with a fine cloudy sky. Its only fault is its all too dark shadows, a little transparency in which would have been a very decided improvement.

Hints on Mounting Pictures.

THE professional photographer has one great advantage over the amateur—he knows how to harmonize the picture and the mount. Just at this important point many enterprising amateurs “fall down,” as will be seen from the following sad story told by a writer on photography in a Philadelphia paper:—

A great deal of bad judgment is displayed in selecting card mounts. I am conscious of a distinct shock when I see some of the combinations of print and mount that some amateurs show.

An amateur friend of mine—rather a beginner, let me say, in his excuse—showed me with visible pride the other day a collection of pictures that caused me actual irritation. They were 4 x 5 prints, finished in solio, and most of them were good. Some were extremely fine. But although all were toned a bright brown, every last one was mounted on a light gray card. The effect was indescribably bad. The mounts killed every iota of artistic quality, and even the most uninitiated, I think, would be conscious that there was something jarring there that they could not explain, but still felt.

Put it down as a photographic axiom that a brown print should never be mounted on a gray card. It looks very well on a white card or on a darker brown one.

Another very bad combination which I often see is a black and white print on a brown card. This, if anything, is worse than the other combination. Not long ago I saw a series of vivid black platinum prints which the amateur maker had mounted on sepia Rembrandt cards. Had they been mounted on gray Rembrandts they would have been artistic successes. As it was they were botches.

It is contended that the primary object in mounting and framing a picture is to isolate it from surroundings, so that the attention of the spectator may be directed especially to it, and that the best service a mount and frame can do for a picture is not to interfere with the effect, but experiments with different tints of mounts demonstrate that such neutral ground in the action of accessories is not tenable. If the mount is not for the print it is against it. If the mount and frame do not enhance the good qualities of the photograph they do positive injury by their presence.

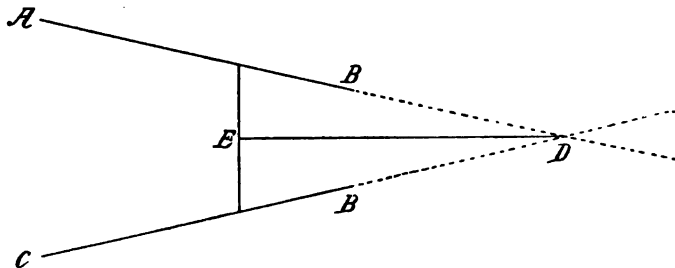
The mount is truly the wedding garment for entry of your photograph into the feast of art.—*Collins' Trade News.*

It is not the business that elevates the man, but the man who elevates the business.

The Shutter, the Stop, and the Exposure Meter. II.

WHERE a camera with a sufficient draw for the simple way of ascertaining the equivalent focus for a lens mentioned in our first article is not available, the next in simplicity is that devised by Grub, which may use screen or ground glass.

On a table which has been fastened by drawing pins or otherwise a large sheet of paper and placed before an open window, set the camera carrying the lens to be tested, and on the ground glass of which has been drawn two vertical pencil lines, one about an inch from the left end and one about the same distance from the right end, but with an easily measured distance between them. Focus on a distant object, not less than 200 feet away, and preferably vertical, such as a lightning rod or chimney. Then



revolve the camera on its axis till the focused object and the line on the left of the focusing screen coincide, and, using the right hand edge of the base as a straight edge, draw a pencil line its whole length on the paper. Next turn the camera till the object coincides with the line on the right, and draw a similar line on the left edge of the base-board. It only remains now to connect the two lines of an unequal triangle thus made, by a line the exact length of the distance between the lines on the focusing screen, and at the point at which they will touch. From the middle of that line to the point at which the longer lines cross is the focal length or equivalent focus of the lens. The above diagram will perhaps show the method more clearly. A B and C B are the lines drawn along the sides of the base-board of the camera, and A D and C D those lines continued till they cross. E is the line the exact length of the distance between the lines on the focusing glass or screen, and the line E to D is the equivalent focus of the lens.

Having ascertained the equivalent focus of the lens it is a simple matter to see how far the stops agree with their markings, to mark them according to their values, or to make a set with openings of the values of the now generally recognized U. S., or universal system.

The value of a stop depends on the amount of light it will allow to pass to the plate, and that is dependent on the relation of its diameter to the

focal length of the lens; or, to put it in another way, the distance between it and the plate. The image bearing light, after passing through the stop, leaves the lens behind it in a diverging cone, getting weaker and weaker according to the square of the distance which it travels before reaching the plate. Suppose we have an eight-inch lens with a stop the diameter of which is one inch, or $f/8$. Focused on a distant object, the stop will, with the general run of lenses, be about eight inches from the plate, and we may further suppose that the plate and light are in conditions to give a normal exposure in one second. If now the lens be changed for one of sixteen inches, or if the doublet be a symmetrical, and we remove the front element we shall have a lens of that focus. The stop is still one inch in diameter but its relation to the lens is very different. It will now be about sixteen inches from the plate and having twice the length to travel will be only of about one-fourth the power, or will require just four seconds instead of one, being $f/16$ instead of $f/8$.

Stops arranged according to the U. S. system, have as the unit $f/4$, at the time of its introduction the aperture of the ordinary portrait lens, the then largest on the market, and it is marked No. 1. The next is $f/5.656$, No. 2, and so on through $f/8$, No. 4; $f/11.31$, No. 8; $f/16$, No. 16; $f/22.62$, No. 32; $f/32$, No. 64; each succeeding number being just half the size, that is, admitting just half the light, and therefore requiring just twice the exposure of its predecessor. Some makers mark their stops, or in the case of iris diaphragms, the lens mounts, with only the f values without the numbers; some the numbers without the f values, and some with both; although in nearly all cases the decimals are omitted.

The focal length of a lens in millimetres or fractions of an inch being known, it is only necessary to ascertain how many of such there are in the opening of any particular stop and by that number divide the number in the lens. Take for example an eight inch lens, and as we are not yet generally familiar with the metrical system, divide it into sixteenths of an inch, which is 128, and a stop the diameter of which is four-sixteenths; $128 \div 4 = 32$, or $f/32$. Like most rules, this works both ways. In making a set of stops, or where for any reason it is desired to know the diameter of a stop for any particular f value, it is only necessary to reverse the operation: to divide the number of units of the lens by the f value desired. Thus we want to make a stop of $f/8$ for a lens of six inches, which is 96 of our units. $96 \div 8 = 12$, or twelve-sixteenths.

When a set of stops have to be made, vulcanite or hard rubber should be selected rather than the usual brass. It is easy to work and even if carried in the pocket never turns bright. Select a sheet just a shade thicker than the slot of the lens mount; cut and file it into shape, and with a brace

and bit, the latter just a shade smaller than the intended diameter, make the opening, and drill it to the exact size with a counter-sink. Then, on a smooth stone, and with fine emery and oil, grind it till it just fits the slot. This will not only give the desired dull surface but also so fill the slot as to exclude the light that with the ordinary brass stops so often gives trouble.

Having thus ascertained the focal length of the lens and correctly marked the stops, or, better still, made a new set where those supplied with the camera were at fault, it only remains to ascertain the actual speed of the shutter to be able to employ the exposure meter with advantage, and to find the speed numbers for such plates as one wants to use and that may not be listed by the makers of the meters.

(To be continued.)

A New Bichromate Printing Method.

THOSE to whom economy is an object or who are of an experimental turn of mind should turn their attention to a recently introduced printing method in which chromium peroxide and mercuric nitrate lays a foundation for a series of prints in various colors, giving beautiful prints at a trifling cost.

Any good tough paper without previous preparation, or it may be sized with arrowroot, gelatine or any of the sizes generally used, the various sizes giving slightly different results, may be soaked for a few minutes in a 10 per cent. solution of potassium bichromate and dried in the dark. As soon as dry, or any time within a month it is printed—preferably in sunlight and under a pretty strong negative, till the shadows are fully visible, a few experiments will show just how deep, and washed till every trace of the yellow bichromate is removed, leaving only a distinct reddish image. This is then immersed in the mercuric nitrate solution, made as follows, although the strength seems immaterial:

Mercuric nitrate.....	80 grains.
Potassium bichromate.....	20 "
Water	1 ounce.

This forms a dark green solution, and should be made some hours and filtered before use. Immersed in this the print assumes a good red color, and only needs washing and drying. The red may be changed to brown by immersion in a weak solution of ammonia, say 60 minims to the ounce, or the red image may be toned to various shades of purple in the ordinary gold toning solutions. It is also amenable to the action of most of the aromatic developers, so that the experimentalist has a vast variety of material on which to work, and may hope for an equal variety of results.

Contribution Box.

LIGHT IN THE DARK ROOM.

Like, I suppose, photographers generally, I have wrought for years under the dim ruby, under the impression that even ordinary plates could not be safely developed under any other. Recent experiments having assured me that, for some purposes at least, Watkins' method of developing by time was both convenient and satisfactory, I resolved to adopt it but struck a snag at the beginning; my light was so faint that it was only with the greatest difficulty that the "first appearance" could be seen. I must have more light, and having a ruby, and copper ruby at that, of 18 x 8, substituted it for the Blair lantern with its pane of only $5\frac{1}{2} \times 4\frac{1}{4}$. This was an improvement, but still there was a difficulty, and besides the larger glare of ruby seemed to affect the eyes more than did the smaller.

My next move was to find a deep "Pot" orange, but could only get it of the rough or irregular surface variety. This gave a light such as some of our older friends rave about as the glorious light of the wet collodion times; and would be safe enough for at least the plates of moderate rapidity. But its undulating surface was a serious fault, darkly clouding the plate so as to make it impossible to recognize the first appearance. The next move was to paste a sheet of "Post Office paper" over the orange pane, and when dry saturate it with vaseline, and that gives a light that is simply perfect, enabling me to read the labels in any part of the 9 x 8 feet dark room. Carbutt's 27 and the Lovell extra rapid plates can be developed under it so as to leave the parts covered by the rebates of the slide perfectly clear glass, and there is not the slightest difficulty in noticing the first appearance, however faint. Of course, in ordinary development I keep the dish covered as much as possible, but with prolonged development and an occasional examination close to the glass, there is not the slightest trace of fog.

W. H. CALVER.

A LENS SHADE.

I recently came across a suggestion in an old copy of an English journal that cannot be known or it would be in universal use. Just what the suggestion was is of less importance than how I carried it out and what it does for me. I secured an inch section of a cardboard tube that fitted snugly over the hood of my lens, and to that glued a crescent shaped piece of wood. The wood in fact was not crescent shaped, but rather as if a hole the exact size of the diameter of the outside of the tube in a square

piece of wood and then cut it in two. This was glued to the tube, flat side up; and to that was hinged a sheet of zinc, the first metal that came to hand, $2\frac{1}{2}$ inches square, the diameter of the hood being 2 inches. It was hinged stiff enough to retain any position in which it was placed, and that was all. The cardboard tube fits easy enough to turn, but I generally use it at the top. In focusing a landscape, or after it is focused, I, keeping my eye on the image, gently turn the shade down till the desired effect is produced, and the result is a fine sky every time. HARRY L. LAMSON.

PRINTING IN CLOUDS IN BROMIDE ENLARGEMENTS.

There may be nothing new in the following, but it was new to me as it first entered into, or rather came out of my head. I employ an arrangement similar to the ordinary projecting lantern only with a larger condenser and made light-tight. The key to the business is a cap made to fit the hood of the lens, made of a section of stout paper tube and into which is fitted a disc of glass and a circle of yellow gelatine. The color of the gelatine is deep enough to protect the bromide paper from the action of the light, but not so deep but what I can see well enough to work the cardboard shade.

The first step is to see that the sky into which the clouds are to be printed is quite opaque, either by painting out or covering by paper. The negative is then placed in the lantern, on the lens of which is a yellow cap, and the bromide paper placed into position. The image will, of course, be easily visible, although without action on the paper; and it is only necessary to make two small marks, one on each margin in line with the sky line. The desired exposure is then given, the cap replaced, and the negative removed and replaced by the cloud negative. Now a sheet of card or any other kind of board the full size of the enlargement must be got, and placed so as to cover it. The cap is then removed and while the exposure is going on the board gently drawn down till all above the marks is uncovered, and as gently raised till the paper is completely covered. This up and down motion must be continued during the whole of the exposure, the length of which must have been learned by experiment. This method may look troublesome and complicated, but a few trials will prove that it is quite within the compass of any average photographer, and that he can make enlargements one after another without a failure. F. R. RYERSON.

DEVELOPING ROLL FILMS.

For over a year I had given up the use of roll films because of the trouble in their development, the difficulty of keeping them flat in the dish,

and the necessity of keeping my fingers so much in the solution. I do not believe in any one but myself doing "the rest," and as I travel a good deal and glass is heavy it was a decided hardship. Now, however, I am once more happy, being able to develop a dozen of my 4 x 5 exposures as easily as ever I developed glass plates. Happening to have a lot of waste 8 x 5 negatives, I cleaned them off, ground the edges on a flat stone to prevent injury in handling, and six of these and eighteen thin rubber bands is all that is needed for the dozen. The film is cut into two exposures, each laid on one plate with a rubber band at each end and one in the middle, and there they remain till developed, fixed, washed and dried.

AGNES K. SOMERVILLE.

MAKING OLD CAMERAS LOOK AS WELL AS NEW.

I want to thank Mr. E. W. Newcombe and also to tell the readers of the A. A. P. who may not see the *Photo-American* of what has made two very shabby cameras look quite as well as when new. I have a Bullard and one of the most expensive kodaks, of both of which I used to be rather proud, but recently, through rather bad usage, they had got so scuffy that I was ashamed to take them out, but on the recommendation of a friend was induced to try Mr. Newcombe's remedy, a coat of the Regal Shoe Company's liquid shoe polish, and to-day they look as well as when they left the hands of their makers.

HILDA JESSUP.

MERCURIC IODIDE INTENSIFIER.

I have been using the Agfa intensifier and find it all that can be desired except its expense, which, as there are few negatives that I do not both reduce and intensify, comes pretty high. I have got out of the difficulty with a modification of Lumiere's mercuric iodide intensifier which answers the purpose admirably at less than a tithe of the cost. The following is the formula, and it seems to keep indefinitely, although, as I always apply it with a brush, the same quantity is never used twice.

Mercuric chloride (corrosive sublimate).....	30 grains.
Potassium iodide.....	35 "
Sodium sulphite (crystals).....	2 ounces.
Water	10 "

Dissolve the sodium sulphite in the water, then, in separate two ounces of water dissolve the mercuric chloride and potassium iodide, and mix the two solutions. Wash the precipitate by decantation in several changes of water, draining the last as far as possible, and add it to the sulphite solution.

This forms an excellent one solution intensifier, the action of which can

be watched and stopped at the proper moment, either for local application with a brush or for general intensification by immersion. The color is a fine monactinic brown, but those who prefer a black have only to immerse the negative for a few minutes in any of the ordinary developers.

A. L. MITCHELL.

Notes.

BLUE TRANSPARENCIES.—J. Le Barre, in *The Photographic News*, gives the following method of staining transparencies a beautiful blue, which we have tried with satisfaction, especially with moonlight effects and seascapes. After development and fixation the plate is well washed and then immersed in a 20 per cent. solution of potassium ferridcyanide till the image is thoroughly bleached, and then it must be well washed till the gelatine has lost all trace of color. The white positive image is then immersed in a bath composed of

Water	1,000 c. c.
Perchloride of iron.....	10 g.
Hydrochloric acid.....	2-4 c. c.

In this the image rapidly turns blue, and the action must be allowed to continue till the color has reached right through to the back, when it must be well rinsed and immersed in a 10 per cent. solution of hyposulphite of soda, to which 5 per cent. bisulphite of soda has been added, and then washed and immersed in an alum bath slightly acidified with sulphuric acid, and again washed. The resulting image is without grain, and in fact a transparent stain which is extremely beautiful.

A NEW COLLODION PAPER.—Here is a hint that ought to be of advantage to some of our sensitive paper makers. Liesegang has introduced a stripping paper that should be just the thing for making enlarged positives and negatives; better because more convenient and cheaper than where plates are employed. It is a collodin-bromide emulsion spread on paper coated with soluble gelatine, so that on soaking in hot water the finished positive or negative can be readily separated from the paper. Such a paper has been in use in Britain for some time, and if put on our market could not fail to find a large demand. The trend of photography amongst photographers who aim high is the making of large negatives from small plates, and this is just the medium for the purpose.

EXHIBITION OF THE ROYAL PHOTOGRAPHIC SOCIETY.—We have received the prospectus of the forty-sixth exhibition of the Royal Photo-

graphic Society (of Great Britain) which will be open from September 30th to November 2d. The regulations are substantially the same as those of last year, and exhibits must be delivered at the New Gallery, 121 Regent street, London, W., on September 10th. Blank forms and all necessary information may be obtained on application to the secretary of the Royal Photographic Society, 66 Russell Square, London, W. C.

CATCHING BIRDS.—Mr. O. H. Pike, of Winchmore Hill (England), has hit on a sure way of catching birds. He places a piece of fat on a wire electrically connected with the shutter of his camera, focuses on that, and when the bird alights to the feast its weight snaps the shutter and the exposure is made.

FLASH-LIGHT DISASTERS.—The great number of accidents with flash-light powders has led one of the correspondents of the *New York Sun*, who has had many years' experience in explosive engineering, and who has investigated all the flash-light explosions, so far as circumstances would permit, to write to that journal a long letter which ends with the following conclusions: "The abuse of flash powders, after they fall into the photographers' hands, reflects severely upon their intelligence and good sense. I would urgently recommend to photographers, professional and amateur: (1) The observance of the greatest care under all circumstances. (2) A thorough series of private experiments before making any demonstrations or taking any flash-light pictures, with a view to acquiring knowledge and confidence. (3) To remember that a flash-light powder is intended to burn when it comes into contact with a flame or a spark; and to keep carefully the powder and the flame or spark separated by a respectable distance, until the moment arrives when the picture is to be taken. (4) Never use any flash-powder containing chlorate of potash. Accidents are liable to happen, and the fumes are very corrosive, therefore likely to injure curtains, hangings, etc. (5) If you have an assistant, do not trust to him any part of your flash-powder work, unless he knows the work practically. (6) Never use a compound flash-powder in a magazine lamp; it is intended only for powdered magnesium."

It is our sad duty to record the death of a gentleman well known in photographic circles. Dr. Theodore G. White, professor of physics in Columbia College, and associated with the Voightlaender & Son Optical Co., died suddenly on July 7, from pleuro-pneumonia, contracted while bathing at Long Branch.

Words From the Watch-Tower.

BY WATCHMAN.

THEY do some things better in—some countries. Here the law allows a judge to deny copyright to a landscape because it is a copy of a natural scene, and to the portrait of an actress for some equally absurd reason; while in Great Britain another judge with a more correct idea of the fitness of things, gives a South African photographer \$448 because the editor of two papers who had paid for the right to publish one of his photographs in one, published it also in the other without leave. Is it our law, or our judges, or both that need mending?

* * *

According to *The Photographic News* "The London Stereoscopic Company, Cheapside, E. C., are now publishing photographs of a 'toad' discovered by Mr. W. J. Clarke, Rugby, in the center of a lump of coal, after having been on the fire about an hour and a half. Mr. Clarke broke the coal with a poker, and noticing something moving, he picked it up, and found it was a living toad. It had no mouth, and was nearly transparent. It lived five weeks after being liberated, and has been on view in Cheapside." My faith is pretty strong but hardly strong enough to swallow this, and it is surprising that a house such as the London Stereoscopic Company should aid in giving publicity to such a fake on such evidence as it was possible to get. John sometimes accuses Sam of drawing the long bow, but Sam never evolved anything that could hold the candle to the salamandrian toad.

* * *

Herr Parzer-Muhlbacher has exercised his ingenuity in the invention of a method of getting a stream of warm air to play locally on underexposed plates. He supports a spiral of metal tube on the top or inside the dark room lamp. To one end of this spiral is fixed a rubber blower such as are used for spraying apparatus, and to the other a length of rubber tube sufficient to enable the operator to direct the current to any particular part of the plate. Of course this will answer the purpose, but will it answer it any better than the old, old way of blowing through a suitable tube by the mouth? But even a tube in the mouth needs care. I have more than once spoiled a collodion negative by sulphur or other dust blown from a rubber tube, and so recommend glass every time.

* * *

The black velvet heresy as a cure for halation is hard to kill. It crops up once more in a recent article in the *June Camera*, by G. M. Heberd,

where he says, speaking of backing, "It's a good thing to keep out of the dark room, so I have now fixed the holders by fastening black velvet to the divisions so that the back of the plate rests against the nap. This is a cleaner and just as effective way; *any light going through the plate is absorbed and reflection killed.*" The italics are his, and surely no more absurd statement was ever italicised. I had fondly thought that no one who aimed at teaching his fellows could possibly labor under such an often corrected mistake, but one must live and learn. Equally at sea is this teacher regarding the effect of backing in another direction. In an attempt to impugn a statement in an English contemporary to the effect that for the best work backed plates should always be employed, he says: "It may be that some workers may not agree with Mr. Rippon as to the desirability of using backed plates for all subjects, and perhaps it is the difference of atmosphere that leads him to the continual use of them. Over here a landscape in bright light and clear weather (*the distance*) *is brought too near when a plate that has been backed is used, but in hazy weather, or when it is necessary to point the camera pretty well toward the sun,* a backed plate will make the better negative." The italics this time are mine, but the statement is quite as far from truth as the other. No, no, Mr. Hebard, you are out, very far out, you may take my word for it. Nothing short of optical contact between the backing and the plate will obviate halation; and there is not a photographible subject that cannot be better photographed on a backed plate than on one that has not been backed.

* * *

A NEW STORY OF THE BIRTH OF PHOTOGRAPHY.—Some of my friends wonder why I trouble myself about little things; why I bother with the correction of trifling misstatements when I might be writing something that might be practically useful. But even trifling misstatements pass into history, and as giant oaks spring from little acorns, the trifling misstatement may acquire sufficient magnitude to falsify it out of recognition.

A case in point occurs in *Camera Craft* for June, in which the premier place has been given to a series of statements that, if true, contradicts nearly all that has been written and accepted regarding Daguerre's inspiration and methods in his share in the discovery of photography.

The article is by Gus. Henriod, who claims to be not only a contemporary, but an assistant of Daguerre in so far as a model can be called an assistant, and actually reproduces a portrait taken during that time.

Briefly, Mr. Henriod's story is to the effect that *in 1840* Daguerre came to his father's house in the Rue d'Orleans, Le Havre, as a boarder; that while lying in bed awake on a moonlight night, his attention was attracted to the reflection of people and carriages moving on the *ceiling* above him.

At first the endless procession suggested the idea of a haunted room, but being of an investigating turn of mind he resolved to find a solution of the mystery. Examination revealed a knot-hole in the shutter through which came a stream of moonlight, and on covering this with his finger the procession was obliterated, only to start again when the finger was removed. "This experience started M. Daguerre upon a series of investigations *which eventually resulted in the birth of photography.*" From this "the little man" conceived the notion that such images as he had seen on the ceiling could be fixed on a plate and made permanent, and he set to work with that end in view, publishing from time to time notes of his discovery, which only created laughter at his expense.

Mr. Henriod then goes on to tell how he, a lad of eight or nine, was made to sit before the camera, the only means of focusing being the removal of the sitter to and fro till the proper distance was obtained, and that this continued with more or less success till one day when, believing that he had reached the goal, Daguerre threw his arms around his model and forced him to dance with him in his joy.

The italics are mine, placed there to emphasize the points most needing a little elucidation. How did the shadows transmitted by the knot-hole find their way up to the ceiling, and why did the procession seen in 1840 suggest a series of investigations and experiments that had been carried on for a number of years previously, create a desire for something that he had already obtained as the result of that labor, and which was fully described in a paper that had been deposited with the Academy of Science, and which was published in 1839?

Mr. Henriod doubtless writes according to his recollection, but brain cells that have done duty for the allotted three score and ten are not always to be trusted, and where it is a question between unimpeachable documentary evidence and the evidence of such well worn brain cells, the former will be accepted every time.

PHOTOGRAPHY in Canadian backwoods must be rather exciting, judging by Mr. Ashleigh Snow's experiences. He says that in addition to his ordinary camera outfit he had a hatchet in his belt for making foregrounds, and a revolver in his hip-pocket for varmints, human or animal. This reminds us of Mark Twain's experience in going out West to start a newspaper. In addition to the printing appliances he took with him a mountain howitzer, but having forgotten the shot he had to load up with type. His leading articles in solid long primer played terrible havoc with the Indians—if his story is true.

Novelties in Camera Construction.

"Photo-Cartouche" Camera.

[From *The Scientific American Supplement*.]

AMONG the photographic novelties that have recently made their appearance, there are a few worthy of mention by reason of their entirely new arrangements. The "Photo-Cartouche" (Fig. 2) is a twin lens camera devised by M. Schlesinger and constructed by M. Gillon. It is of the usual form, with a drawer-magazine for the manipulation of the plates; but what chiefly characterizes it is the manner in which the charging is done. The plates are, as usual, put into small metal holders, but the latter, instead of being placed directly in the drawer, are laid one upon another in a box, D (No. 4), which is provided with no mechanism, and which constitutes the "cartouche" (cartridge). The operator may provide himself with a certain number of these boxes, and thus be able to recharge his apparatus in broad daylight. The box, in fact, is completely closed on every side, but after it has been placed in the drawer of the camera the slides that form the top and bottom are removed, and the plates, P (No. 3), thus freed, engage with what may be called the extracting mechanism, housed in the drawer. Two clamps grasp the top plate (the one that has just been exposed), and when the handle is pulled the plate engages with two levers which guide it to the bottom, B, whatever be the position of the apparatus; so that when the handle is shoved back the plate passes under the others in the box. After the twelve plates have been exposed the box is closed by means of the slides, which have been temporarily resting in a recess formed for this purpose in the bottom of the apparatus. It is then possible to take out the box in broad daylight and substitute another for it. This arrangement

FIG. 1. GENERAL VIEW OF THE APPARATUS, WITH THE FINDER RAISED AND THE MAGAZINE OUT OF CENTER.

FIG. 2. MECHANISM OF THE SHUTTER.

allows one to consider the magazine as indefinite, since the number of plates is limited only by that of the boxes that may be enclosed in its pockets or in a special bag. These boxes are not very costly, owing to the fact that they are destitute of mechanism.

The shutter (No. 2) is likewise worthy of special mention by reason of the manner in which the time of exposure is regulated. It is a shutter with two slides, L, one moving over the other and not unmasking the objective when set. It permits of making any length of exposure at will. The retardation of speed is regulated by a fly, H, which revolves

FIG. 3. CHANGES OF PLATES IN ALL POSITIONS.

as in clockwork movement, and regulates the velocity of observation according to the length of time that it is capable of revolving. In this way a very accurate determination of the time of opening of the objective is reached, and it is possible to obtain a certain and invariable graduation. This cannot be done with shutters in which the velocity is regulated either

by the greater or less tension of a spring, or the more or less energetic friction of a brake.

The opening and closing of the objective always take place abruptly, whatever be the velocity for which the apparatus has been regulated. The focusing is done through the displacement of the board that carries the objective-mounting by

FIG. 4. PLATE BOX.

means of a button, M (No. 1), that acts upon a rack. A special jointing assures an absolute immobility of this part of the apparatus, even when it is advanced as much as possible for focusing at more than three feet.

The putting out of center is not effected, as in other apparatus, by the displacement of the objective, but by that of the magazine, M, in its entirety. This permits of the use of a special finder, V, which always gives the image contained in the plate without the need of any regulation, whatever be the displacement. This arrangement requires a divergent lens having the same focus as the objective employed and linear dimensions exactly half those of the plate. It therefore occupies considerable space, and in order to conceal it when not in service it became necessary to place it

toward the back of the apparatus immediately in front of the magazine, upon the body, A, of the camera, upon which it can be turned down. It is operatively connected with this part of the apparatus, and consequently remains immovable, its optical axis corresponding to that of the objective. The eyehole support, R, that corresponds to it is, on the contrary, mounted upon the magazine and moves therewith in cases of displacement. It is provided with a slide that permits of placing it at a distance from the lens equal to the focal distance of the objective. All those who have made use of hand apparatus will at once see how great an advantage there is in being able to easily see upon a large finder the exact image that will be reproduced in the negative.

**Guenault Adapter for Converting the Kodak into an Apparatus with
Separate Frames.**

The Guenault Adapter (Fig. 5) is designed to convert the folding Kodak into an apparatus for plates. Although the use of the film is now quite practical, it is nevertheless attended with certain inconveniences, especially when employed in a roll, and among these is the necessity of utilizing the

entire roll before the developing is done. This drawback is compensated for, however, by lightness and compactness.

Therefore, without criticising the folding Kodak, we think that it is capable of some improvement, and that many ama-

FIG. 5.

teurs would be pleased if it could be employed with glass plates. M. Guenault has rendered this possible by so arranging things that the transformation to be made is so simple that anyone can effect it without having recourse to a workman. His adapter is a small metal case, E (Fig. 1), which is applied by hard friction to the rear frame of the Kodak, the cover, A, of which has been removed. It is into this case that slides the small metal frame, B, provided with a shutter that is removed at the moment of operating. Three of these frames are furnished with the adapter.

The sensitized plate is no longer exactly at the place where it should be in order that the objective may be in focus upon infinity, but is in focus for

objects situated at a distance of five feet; and if it is desired to photograph objects situated at three feet, a frame, F, is interposed between the case, E, and the Kodak. It is naturally necessary, also, that one shall be able to operate without concerning himself about the distance—that is to say, with the focus upon infinity. To this effect, it is necessary to bring the object near the sensitized surface. After some experiments, the inventor has adopted a very ingenious automatic arrangement, which is represented apart, at the bottom of the engraving. It consists of a small plate of steel, c, bent at right angles and held, through the intermedium of the counter-plate, H, by the wooden screw, V, which is found on all Kodaks. Anyone can perform this operation very easily, the only tool necessary being a screwdriver. This plate is designed to be interposed between the jointed levers that support the front, D, of the apparatus, so that they shall not be fully extended. The objective is thus moved backward to such a distance that the focusing shall be exact. If it be desired to operate with a film wound upon a spool, or if it be desired to photograph an object situated at a distance of five feet, it suffices to raise the plates slightly. By means of these small accessories, which are not very costly, we have an apparatus with which glass plates as well as films in rolls may be employed.—For the above information and the engravings we are indebted to *La Nature*.

The Deceptive Angle Graphic.

A MODEL DETECTIVE CAMERA.

MANUFACTURED BY FOLMER & SCHWING, 404 BROADWAY, NEW YORK.

A novel and practical instrument that is the perfection of so-called detective cameras is manufactured by Folmer & Schwing, of this city. This firm, not content with being leaders in quality, aspire to lead also in the variety of their output. The Deceptive Angle Graphic, as its name implies, is a box about the size of the ordinary 4x5 folding pattern, resembling a stereoscopic camera in outward appearance, but so constructed that objects at right angles to the line of sight may be accurately focused and photographed. For the newspaper man, the lantern slide maker and magazine writer it is the ideal camera. Figures full of life and action can be caught unawares. Photographers at seaside resorts have often been jumped upon, both figuratively and literally, and had their apparatus smashed because it had been pointed at some public character of athletic proclivities. With a Deceptive Angle Graphic this danger is removed, as the camera is pointed and the operator innocently looks in an entirely different direction. It is well constructed, as all Graphic cameras, accurate in mechanism and capable of finest results.

The side of camera is fitted with a pair of "dummy" stereo lenses, protruding through the box, with an imitation finder near the top and directly opposite the focusing bellows, which gives the appearance of a complete stereo camera. The front of camera is hinged and may be opened to change or clean lenses, and has two rectangular apertures through which the lens and matched focusing finder lens work. The apertures are covered with a metal shield. The focusing bellows is drawn out on two metal side arms, riding between metal guides, fitted with a single eye-tube similar to a jeweler's magnifying glass, which permits of sharp and accurate focusing, and shades the ground glass. The rack and pinion focusing device is concealed within the camera, with the exception of a focusing lever, which is operated with the thumb; the point of this lever acts as an index on a graduated focusing scale for "snap-shot" work without using the focusing finder lens. The push-buttons for setting and releasing shutter are all placed within easy reach of thumb, near the focusing lever. The Deceptive Angle Graphics are fitted with removable lens boards; tripod plates; compartment in back sufficient to carry Graphic magazine plate-holder; cartridge roll-holder, or three double plate-holders, and may be used as a twin lens camera for taking vertical views.

Cash Prize Contests.

Bausch & Lomb Optical Co.'s Contest.

FIRST PRIZE—CASH \$100. SECOND PRIZE—CASH \$50.—In order to secure at once specimens of work done with our new Plastigmat f-6.8, we offer the above amounts in cash for the best and second best pictures submitted on or before July 20th, 1901. Conditions: No restriction is given as to size or subject. Exhibits will be judged on the basis of artistic composition, interest of subject and the extent to which the optical possibilities of the lens are demonstrated. Negatives or negatives and prints may be submitted. We must have assurance that negatives are made with Plastigmat f-6.8. Exhibits must be in sealed package marked "Plastigmat Contest" and with an assumed name referred to in a sealed letter also marked "Plastigmat Contest." The letters will not be opened until after the awards have been made. Competent and disinterested judges will pass on exhibits. It is understood that we have the right to reproduce any picture submitted whether copyrighted or not, and that the ownership

of negative will remain with the contestant if desired. All contestants will be notified of result of contest, and due credit will be given to all pictures used. Prizes will be paid on the 30th day of July. Contest closes July 20, 1901. Bausch & Lomb Optical Co., Rochester, N. Y.

Rotograph Company's Competition. Over \$500.00 in Prizes.

The Rotograph Company, 101 Fifth avenue, New York, request us to announce that they are offering 119 premiums, aggregating \$500 in cash and \$110 in bromide paper for pictures made on their "Rotograph" bromide paper, as follows:

One grand award of two hundred dollars (\$200.00), in cash, for the all-around best picture, whether a contact, an enlargement or a postal-card—made on any grade of "Rotograph" paper.

Contact class—For contact prints, not smaller than 4 x 5 sizes. Seven cash premiums, one of \$75.00, one of \$25.00, five of \$5.00 each; also 40 premiums of, each, 1 dozen 10x12 sheets of "Rotograph" bromide paper, value \$1.10 per dozen.

Enlargement class—For enlargements, 10x12 and upwards. Seven cash premiums, one of \$75.00, one of \$25.00, five of \$5.00 each; also 40 premiums of, each, 1 dozen 10x12 sheets of "Rotograph" bromide paper, value \$1.10 per dozen.

Postal-card class—For pictures made on sensitized "Rotograph" postal-cards. Four cash premiums, one of \$30.00, one of \$10.00, two of \$5.00 each; also 20 premiums of, each, 1 dozen 10x12 sheets of "Rotograph" bromide paper, value \$1.10 per dozen.

Alfred Stieglitz, John A. Temant, B. J. Falk, E. B. Core and F. Dundas Todd, gentlemen well known as amateurs, professionals and editors, have consented to act as a judicial committee.

The judges will base their decisions both on technical and artistic merits, but no picture not fulfilling the conditions given above will be put before the judges. All pictures submitted must be straight prints, not worked up by hand or air brush.

The pictures receiving awards become the property of the Rotograph Company, with right of publication. They do not undertake to return any picture sent in, unless full postage is remitted.

The names of the winners will be made public in the photographic magazines, and in the company's own publication, *The Bromide Monthly*, which contains full particulars of competition, and will be sent free on receipt of request accompanied by two-cent stamp.

Pictures intended for this competition must be forwarded not later than November 15, 1901, by mail or express, all charges prepaid. Awards will be made as soon thereafter as possible.

The following conditions must be observed:

In the same package with the picture enclose the label taken from the package of "Rotograph" bromide paper, also an entry blank, properly filled out, which will be furnished by your dealer or by the Rotograph Company.

\$50.00 in Cash Offered by Henry Ferris, Advertising Expert.

June 25, 1901.

Publishers AMERICAN AMATEUR PHOTOGRAPHER:

Gentlemen—I authorize you to offer to amateur photographers the following cash prizes for pictures suitable for advertising purposes:

First Prize of Ten Dollars.

Second Prize of Five Dollars.

Ten "Consolation" Prizes of One Dollar Each.

While no absolute rules can be given, I will say for the guidance of competitors that the pictures should always have *life* in them—human, animal, or insect life. Mere landscapes, however good, are not wanted. They should bring out strongly some particular figure or group, and not cover too much ground. The pictures most likely to be successful will be those which show persons or animals *doing something*—a man or woman or child talking or reading, or laughing, or shooting, or using tools; an engineer oiling his engine, a draughtsman making a design, a machinist or carpenter or blacksmith or shoemaker or mason at work; cats fighting, dogs barking or playing. Persons using machines are excellent subjects—lawn mowers, washing machines, sewing machines, etc. Send pictures of persons playing the piano, using the hose, winding the clock, carving a turkey, or in any household operation. Pictures of very small objects may be good—a hand holding a tool, baby's feet, a bird, a butterfly, a katydid. Such objects should be taken as near to the camera as possible. Pictures that show character or emotion are especially desired—a person laughing at a story, or provoked at a balky horse, or driving a pig out of the garden. Subjects in town are quite as likely to be good as those in the country. Men at work on buildings, railroads, vessels, street cars, in shops, foundries, or mills; policemen, letter carriers, peddlers, or other familiar characters, are wanted. Pretty girls and children are always in order, but they must be *in action*, or showing expression, not mere portraits. Prints sent must be albumen prints (or glossy printing out paper), not smaller than $3\frac{1}{4} \times 4\frac{1}{4}$, and the larger the better. They should be unmounted, though this is not essential. It is not necessary that pictures should be taken expressly for this competition. Prints made from negatives that you have on hand will be accepted. All prints must have the photographer's name and address on the back, and be sent to my office, 1049 Drexel Building, Philadelphia, before August 15th, 1901. The names of the winners will be published in the AMERICAN AMATEUR PHOTOGRAPHER. Please have it understood that I cannot undertake to return any prints sent.

Yours very truly,

HENRY FERRIS.

RAPID WORK.—Surely the British Thomas Edison Animated Photograph Company have reached the acme of rapidity in film making. General Buller's visit to Manchester was "cinematographed," and within four hours after the exposure the positive film, 500 feet in length, was shown on the screen in St. James' Theatre, London.

American Lantern Slide Interchange.

THE GRAND JUNCTION, BROOKLYN AND FRENCH SET.

GRAND JUNCTION COLORADO CAMERA CLUB.

The members of this club do not seem to understand the main object of the interchange, at least as we understand it, the promotion and improvement in slide making. The twenty-eight slides accepted by the selection committee are apparently the work of one slide maker, and are fairly good examples of professional work, *i. e.*, with what should be grades of lights represented by bare glass—all the lights the highest of high lights. Then, with a few exceptions, they are purely topographical; the mountains, rocks, and caverns of Colorado; and without the names of the authors.

We would rather see a few *poor* slides made by each of a dozen members than that even this fairly good commercial work should be delegated to one maker, as then we might expect to do some good by pointing out faults and suggesting remedies; but we can spare neither time nor space in the teaching of slide making to those who do not try to make slides.

SOCIETE PHOTOGRAPHIQUE DU NORD, DE LA FRANCE.

The forty-two slides from this society, while a decided improvement on any of the French sets previously noticed, do not get beyond the commercial, indeed hardly up to a fair average of that, and they are purely topographical without any attempt at the pictorial. They are mostly without authors' names, and with few exceptions, have nothing but bare glass between middle tint and the highest of high lights.

The exceptions are No. 6, "Dredge in Calais Harbour;" No. 7, "Waves Breaking in the Shore;" Nos. 18, 19 and 20, "Processions in Douai;" No. 21, "Halt of Gypsies;" No. 24, "The Catechism Lesson;" No. 30, "A Happy Family;" No. 32, "Fishing Boat, Ostende;" and No. 41, "Route from Interlaken to Lauterbrunnness," all of which are effective, many with true tonality, and that would be a credit to any collection.

DEPARTMENT OF PHOTOGRAPHY OF THE BROOKLYN INSTITUTE.

The thirty slides by six members of this association, as a set, are ahead of any contribution that we have noticed since the foundation of the Interchange; and

well worth working up to, not perhaps as the highest type of perfect slides, but as such as if even closely approached by the members of the Interchange generally, would place American slides on at least an equality with the best slide makers of any country.

W. A. BOYER leads off with a dozen, all of excellent quality and "everyone better than another." Where all are so good it is difficult to select, but we can hardly think of anything on the screen more charming than "On Lake Placid," 33, unless perhaps "Moonlight Mirror," 57, although we *do* wish that the boatman had been caught while crossing the "silvery beams." "Pensive," 52, is also an exquisite gem, and would have been still more so if the figure had been looking away from instead of into the camera. Grand, also, on the screen, is "The Edge of the Storm," 55. It needs just the right kind of light, but the lanternist who knows how to secure the best effect from such a slide can make the spectators *feel* the atmospheric conditions so well produced. A well deserved word of praise must also be given to the reproduction of a painting. The effect of local lighting, *i. e.*, from a candle held in the hand, was never more beautifully suggested.

F. G. FARQUHARSON leans to the scientific phase, and shows excellent examples of electric sparks in 40 and 41, and of an "Eclipse of the Moon" in 39, but his "Memorial Arch," 29, would have had truer tonality with a longer exposure.

M. R. JONES has yet to learn the bad effect of bare glass where "no bare glass should be." It is a pity to see such a beautiful rendering of "Main Door, Notre Dame," 54, spoiled by a bare glass pavement in front of it. Quite as bad is the bare glass pavement, etc., in the otherwise fine subject, "Street in Old Paris," 36. On the other hand, bare glass where it *should* be is beautifully shown in "Old Carpenter Shop," 47, which is one of the most charming effects of lighting that we have ever seen. But what a pity it is that the carpenter was allowed to stare at the camera, instead of being shown in action? From a pictorial point of view that little slip makes all the difference between success and failure.

W. H. HODGES has three beautiful subjects, all too flat, too wanting in contrast to be really effective, although "A Road to Bronx Park," 51, is better than either of the others simply because the bare glass is slightly fogged. We remember being present at a meeting in the Cooper Institute in New York, when the late H. J. Newton, who in some things lived before his time, brought smiles of incredulity to the faces of those who "know better" by asserting that fog, instead of spoiling, was the salvation of many slides, and he never spoke truer words.

W. B. GILSON's one slide, "On the Bronx," 44, is a beauty, and mainly because there is not a spot of bare glass in it. Of course that alone would not give it a claim to our attention; but when, in addition to that, there is everything that goes towards pictorial effect, it makes a charming slide. But such a fine subject should not have been confined within an oval setting. No doubt

the oval was meant to be in contrast with the vertical stem on the left, but better a thousand times better a little repetition than the questionable confinement of a form that seems to exclude so much that is beautiful.

Taking it all in all, the Brooklyn Club is to be congratulated, and there is no reason why every club in the Interchange should not do as well or even go one better. The besetting sin of American slide makers is the representation of everything above middle-tint by bare glass, the result of under exposure, under development, or both, and we have said this so fully and so frequently that we had almost given it up as a bad job. Bare glass in a slide is on the screen the highest of high lights, and as there are few or none of those in nature there should be few or none in the slide. A slide that has bare glass in a portrait except the shirt or collar, or in a landscape, say a white painted object, is not worth mounting.

Scranton's New Correspondence School of Art and Photography.

"The American School of Art and Photography by Correspondence" was recently incorporated at Scranton, Pa.

The object of the new institution is to develop and put into operation an efficient system for imparting by mail a thorough knowledge of art and photography, also the teaching of the commercial arts as applied to the production of pictures with crayon, pastel, water colors, pen and ink or in miniature form.

The American School of Art and Photography is the pioneer in the teaching of these arts by mail. The staff of instructors, directed by the eminent photographic expert, J. B. Schriever, are artists of ripe experience in their special lines. The school differs from all others in being the only institution in the world engaged in supplying the public with the products of the arts it teaches.

The departments of professional photography, amateur photography, commercial arts, illustrating, etc., are all in charge of competent instructors. In constant communication with them the student is at once placed in touch with points of the greatest artistic and commercial value; saving the ambitious profitless excursions into the realm of

theoretical research by immediate direction of earnest effort toward the destination of practical results by the shortest route.

Apprenticeship in a studio offers meagre opportunities to an ambitious person, even after years of faithful work, as the busy photographer has little time or inclination to teach his secret processes and formulæ to new hands, preferring as a rule to depend for help on the limited supply of skilled artisans.

The remedy for these adverse conditions is furnished through the Schriever system of mail instruction, employed by the American School of Art and Photography of Scranton, by which a student residing in San Francisco may secure—at home—the same effective command of photography or the commercial arts as is enjoyed by the resident of Scranton.

The American School of Art and Photography has been established on a solid basis and the fact that its advertising in the leading magazines has already proved the popular demand among amateur photographers and art students for the courses mentioned must be gratifying to the incorporators.

Our Table.

Books for review and apparatus and material for examination and report should be sent to Dr. John Nicol, Tioga Centre, N. Y., from June 10th to September 20th to Point O' Woods, Long Island, N. Y.

NACHOLSON'S ADJUSTABLE LENS SHADE.—We have already noticed this useful little appliance, and now have to thank the Jackson Lens Shade Co., of Jackson, Mich., for one made to suit our pet nine and a half inch rectilinear, and already we are beginning to wonder how we ever managed to get on without it. No more doubtful shading with the hat and sometimes cutting out a part of the subject in our effort to shut out the sun; and no more haze or fog from letting it in, and especially no more flat flash-light exposures, as the flash may, with the shade, be placed considerably in front of the camera. A few trials with the shade will convince the landscape photographer that the fifty cents, the price of the smaller sizes, was a good investment.

* * *

UNIQUE LONG ISLAND comes to us in the shape of a booklet containing half-tone reproductions of photographs of the scenic beauty and the principal resorts of this historic island. The photographs have suffered much in the reproduction and printing, but is well worth acquiring by those who desire pictorial mementos of the island. The photographic work was done by Mr. H. B. Fullerton, a well-known member of the Brooklyn Academy of Photography, and a study of the pictures will be of special interest and benefit to amateur photographers. "Unique Long Island" and also "Summer Homes on Long Island," another interesting book, will be sent free on receipt of six cents, to cover postage, by H. M. Smith, passenger agent L. I. R. R., Long Island City, N. Y. Free at ticket offices.

* * *

NON-HALATION BACKING.—In calling attention to the article on backing plates in this issue we desire to say that it is only the careless and slovenly that will use unbacked plates after once testing for themselves the great benefit derived from the use of a good backing compound. We have used the E. W. N. backing for some time and would not be without it. This preparation is compounded by Mr. Edw. W. Newcomb, a well-known photo expert, and may be

relied upon as being easy of application, easily removed and as nearly as possible of the same refractive index as glass, which is the principal consideration.

* * *

COLOR SENSITIVE PLATES.—The American Lithographing Co. do much fine color printing and in connection therewith color photography. A few days ago we saw some photographs of highly colored chromos and a special spectrum test that had been made by their expert on Lovell orthochromatic plates. In justice to the Lovell plate we say that the most critical demands of the American Lithographing Co. were fully satisfied. Careful comparison of the originals and the copies convinced us that it would be hardly possible to secure a more correct rendering of tone values by photography. We have used the Lovell ortho plate on flowers and found them all that could be desired.

* * *

"SUMMER HOMES ON THE ERIE" is a handsomely printed and profusely illustrated book issued by the Erie Railroad. We specially recommend this book to all amateur photographers and lovers of picturesque scenery as well as the route and section of the country it so graphically describes and illustrates. Seldom do we see a better collection of pictures, especially in an advertising prospectus, issued in quantity and of such size as the Erie Railroad have issued this year. This book may be obtained free at Erie ticket offices or will be sent free on receipt of 6 cents, to cover postage, by D. S. Roberts, general passenger agent Erie Railroad, 27 Cortlandt street, New York. Considering the fact that throngs of people will travel by the Erie to the Pan-American Exposition this summer, we advise early application for the book by all who wish to add it to their collection.

* * *

NOTE BOOK FOR PHOTOGRAPHIC EXPOSURES.—No photographer who aims at anything higher than the merely mechanical ever goes to the field without his note book, and unless they have some particular fad of their own, they could not

do better than send to C. R. Pancoast of Philadelphia for what he has got up for their special needs. It is just the size for the vest pocket, has fifty pages, a page for each exposure, and by the filling up of a few blanks you have a permanent record of all that you need to know. He also sends a neat folder, "What I Can Do for You," in which he offers to do all kinds of photography, and to help amateurs in all kinds of ways. Amateurs who want something done that they cannot do themselves, or that they do not care to do, should send to 1213 Filbert street for a copy.

* * *

THE PHOTO-MINIATURE for May tells, and tells in its usually plain and satisfactory way, all that need be known about the operation of the tele-photo lens. In telling of its advantages it does not minimize its disadvantages, but the latter are so trifling as compared with the former that one need not hesitate to adopt it at once. But while the essentials in the monogram are without flaw, there are several of what may be called side issues or incidental statements that we can hardly help taking exception to. The author must have a very limited acquaintance with the true amateur, who, every one else at least, knows has made photography what it is; when he says "The amateur who, as a rule, knows nothing beyond the 'fixed focus' box and extremely portable folding camera with minimum bellows extension, cannot be expected to appreciate the difference between a lens of 9 inches and one of 23 inches focal length"; and, again, "The majority of photographers, however, know little about the comparative value of long and short focus lenses." This may have been true a few years ago, but, thanks to a large extent to our own labors, a glance at the catalogues of camera makers will show that long focus lenses are being appreciated.

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THE PHOTOGRAPHIC BLUE-BOOK.—We are informed that Mr. Walter Spange of Beach Bluff, Mass., has in contemplation the publication of what he styles the Century Edition of the Photographic Blue-Book, containing the names of several thousand photographers and others. He is desirous of securing support in advance from the various manufacturers and others.

ABOUT OUR PRIZE LANTERN SLIDE SET.—We have received several favorable comments concerning our Prize Set of Lantern Slides. One of the latest reads as follows: "Please accept most sincere thanks from the York (Pa.) Photographic Society for your kindness in permitting us to inspect this set of slides. We feel quite encouraged in this direction and hope in the near future to have a set of slides of our own to submit in application for membership in the Interchange." Secretaries of clubs and societies should make early application for dates to F. C. Beach, 361 Broadway, New York.

* * *

THE FOLDING POCKET GRAPHIC.—Folmer & Schwing, 404 Broadway, New York. This is another new and ingeni-

ous creation of Mr. Folmer's, embracing all the essential features of the larger cameras condensed into a very convenient pocket size, and having a bellows length of nine inches. Rack and pinion focusing device is very accurately adjusted. A continuation of bed-plate extends into body of camera from platform connected with hinge, which permits of front of camera being drawn out very smoothly without danger of disconnecting at hinge joint. Rising and sliding front is provided. An offset in front platform extends out flush with edge of camera, which prevents camera from rocking when placed in a horizontal position on table for time exposures. Detachable springactuated groundglass with focusing panel is fitted and may be removed. Graphic magazine plate-holder, or cartridge roll-holder may be used. Folding Pocket Graphics are made from selected kiln dried mahogany; lock jointed corners; covered with best quality of morocco leather; black leather bellows; woodwork in ebony finish, and all metal work in oxidized bronze finish,

presenting a very handsome appearance. Two tripod plates are furnished for horizontal or vertical pictures. Folding Pocket Graphics when closed measure $5\frac{1}{4} \times 4\frac{1}{2} \times 1\frac{1}{8}$ inches and weigh $1\frac{3}{4}$ pounds. Made in $3\frac{1}{4} \times 4\frac{1}{4}$ size only.

* * *

CAMERA NOTES for July continues its admirable career, in which it is sometimes difficult to say whether the illustrations or the reading matter is the more helpful. Both in this are good, and will well repay a careful study; although few, we hope, will agree with John Francis Strauss in his diatribe on page 29 against the frequently occurring expression "true to nature" in the criticisms of photographic work. When he says "True to nature is an impossibility, for who knows nature?" it is evident that he has yet to learn what the critic really means by the phrase. No one who knows anything of art wants a picture, a landscape for instance, true to nature; but the more he knows of art the more is he convinced that no true artist will allow himself to violate nature. Much more satisfactory is Dr. John Nicol's statement on page 10, "Nature need not, indeed, should not be closely followed; but neither may it be openly and pronouncedly violated." But the number contains much useful matter about which

there can be no controversy, such as F. M. Sutcliffe's "On Figure Photography," Demachy's review of the American pictures recently on exhibition in Paris, and "The Art Education of the Photographer," by O. W. Beck. The illustrations include Adamson's well-known "Amidst Steam and Smoke," prints from two negatives made by D. O. Hill in 1844, a series of excellent examples of figure studies by Sutcliffe; "Zitkala-Sa," by Keiley, which we really like, or perhaps we should say, which we are far enough up to understand, and a number of others, some of which we like and some of which are too far above our comprehension. From this number we also learn that the magnificent photographic library collected by Mr. C. W. Canfield, consisting of nearly a thousand volumes and probably the best collection of works on photography in the world, has been purchased by Mr. John Aspinwall, the president, and presented to the Camera Club. In this connection we should like to make a suggestion to the effect that when the club has made a catalogue of the library a copy should be sent to each of the editors of photographic journals that they may know just where to find some item of information that might be useful to a larger number than can ever belong to the club.

Our Portfolio.

Communications for the editors, pictures for criticism (only one print at a time) and apparatus and material for examination, should be sent to Dr. John Nicol, Tioga Centre, N. Y., from June 10th to September 20th to Point O' Woods, Long Island, N. Y.

1250. C. A. RICHARDSON.—"The King's Highway" is a good subject, but the middle of the road is rarely a good point of view. Here it has resulted in a mechanical effect, a pair of scales idea that keeps the eye wandering from side to side, without finding anything on which to rest. Then, the values are altogether wrong, the road, the sky, and some of the trees are simply white paper, while the shadows across it, the fence, and the rest of the trees are as black as paper can be made. The composition would be improved by trimming off the black tree on the left, but nothing short of a much longer exposure will give anything like true values. From the unmistakable evidence of great under exposure, and as it got one and a quarter seconds

with $f/22$, we are inclined to suppose that it was the $f/22$ as marked on the mount of the combination, and as only the single lens was employed it would be $f/44$, requiring just four times as long.

1251. N. J. DALETH.—"A Quiet Day On the Lake." Tame is the most characteristic description that we can apply to this. The horizon is in the middle, which always gives a feeling of weakness, and is here intensified by the fact that sky and water are alike in tone, and the clouds are without character or definition, more like an attempt to make them by smearing paint on the back of the negative than by photographing from nature. Then, the little launch is too close to the margin to be effective, and the whole thing is without contrast or mass-

ing of light and shade. Half an inch of the uninteresting water trimmed from the foreground would be an improvement; and better still, if the launch had been caught while in motion so as to break up the all too quiet surface of the water and give some of the much needed contrast.

1252. E. WILLIAMS.—Just what to say of this unnamed print is a juzzle. Darkness made visible is the only title that suggests itself, and even that is hardly appropriate. Up to what should be the sky line and a little above it, all is one uniform dark chocolate, broken so as to suggest the roof of one house broadside on, and that of another with the gable towards the view, and what may be a stack of hay or straw, and a clump of trees. The trees need no guessing, but the houses are known to be such only because each is surmounted by a chimney. What is meant for sky is only a shade or two lighter than the lower part, flecked by a lot of small clouds. But although without a hint of detail, or the faintest trace of definition, it will be to some a mine of suggestion, and it may be a source of inspiration. Our first idea was to throw it into the waste basket, but the more we study and think over it the more we are impressed by its originality and the better we like it as a means of creating thought. It is practically a silhouette that each may fill up according to his fancy; an example, although one that goes too far over the score, of a picture that suggests more than it shows. One of the most attractive features of the picture is the admirable way in which the light towards the horizon has been managed; but the style on the whole is risky, and although, were we on the selection committee of a salon, it should have our vote, we strongly advise you not to try it again.

1253. A. G. GRAFF.—“The Blacksmith and His Helper.” This has been taken, probably at the same time and under the same conditions, and has exactly the same faults as the blacksmith noticed as 1238, only that the effect of rest rather than motion or action is increased, the helper being as much of a lay figure or standing to be photographed as his master.

1254. C. F. RAKE.—“The Path to the Wood” is a fairly well selected subject very badly photographed. The path, unless where partly shade, is simply white paper, as is also the sky; and points of

white are scattered all over the print as if dusted from a pepper box, while everything that is not white is one universal dark brown. You must give sufficient exposure and concentrate the lights and shadows if you want to make pictures, and don't stick a figure like a little black dot away in the background, making one wonder what it is doing there. Figures in landscapes are risky, and you should never introduce them unless they are needed, and only when they are suitable.

1255. OSCAR G. MORSE.—“The Fall” is a good photograph of a subject that, from this point of view at least, is of little or no interest. The fall, spreading almost all over the lower half of the print, suggests nothing so much as a broad stair, and the effect is intensified by the use of an unsuitable lens, that is, a lens of far too short focus for the subject, exaggerating foreground objects and diminishing those in the distance. While there should be but one object of special interest in a picture, the cases are rare in which that object should be allowed to occupy all the space. For subjects of this kind, and in representations of this size, you would with advantage use only one of the elements of your doublet; and never forget to expose long enough for the detail in the shadows to come before the lights, such as the sky becomes in the negative quite opaque and in the print white paper.

1256. W. E. COGSWELL.—“A Pretty Maid Out Strolling Went,” etc., is one of the most beautiful things that has come to our table for a long time. It belongs to what is known as “the usual thing,” the professional rather than the pictorial phase of photography, but is very much better than the average of even the best of our professional work. We say that it belongs to the professional rather than to the pictorial, because it is a record, and a magnificent record, of fact, a reproduction of what was before the camera without any attempt to emphasize or suppress. Nor do we wish by has its value, and when as here the tech-saying so to in any degree lessen its value or our estimation of it. Record of fact nique is simply perfect, it is worth of the highest praise. The maiden is in a fluffy white dress with an equally fluffy, almost gauzy white parasol; and the texture and transparency are rendered as only photography at its best can do.

1258. BENJ. LINDSTROM.—“Distant Thoughts” is good so far as pose and ex-

pression are concerned, but why make everything but part of the hand and face perfectly black? Subordination is desirable, but anything rather than black to lead the eye to the objective point. Then, where you have a shaded background it is always better to place the light side of the face to the darker shade and *vice versa*. You are to be congratulated on the position and expression, and when you learn to lead the eye to where you want it to go by detail, however subdued, you will make an excellent picture.

1259. JOHN HANNA.—“Playing Papa and Mamma.” Photographs of children arranged for the purpose are rarely worth criticising from a pictorial point of view, and this is no exception. The sitting for their pictures is too evident, and the forced repose instead of the exuberant action of childhood is not attractive. The technique is also faulty, the light having been too much in front, and it has not been allowed to act long enough. The development of the white dresses has been carried a little too far, while that of the faces has not been nearly sufficient, representing them, but for the features, as colored, and pretty darkly colored children. Development with a solution weaker in reducer might have been an improvement, but the true remedy is a longer exposure; long enough to admit of getting the faces up to the proper tone before the detail in the white dresses was covered up.

1260. W. Z. HUTCHINSON.—“Where the Sunshine Loves to Linger” is a fairly good example of the topographical phase of photography without a trace of the pictorial. The absolute lack of atmosphere, the fact that the distant homes on the sky line are as sharp and well defined as the objects in the immediate foreground is fatal to the pictorial; and equally so is the other fact that the water is really lighter in tone than the sky from which it gets its light. We can realize the beauty of the scene as you describe it, and that the photograph does not in any way suggest it is not due to any fault of yours but to the limitations of the art which makes it difficult indeed to make a picture of such a large extent

of country. Taking it, however, for what it is—merely a topographical representation—it is very good.

1261. P. WALKER.—“In the Meadows” is a good photograph of a fine subject from a wrong point of view, or, at least, not from the best point. The large tree is too near the centre and not sufficiently balanced on the left. Your technique is good, and you need only to more carefully study selection to make good pictures.

1263. BURT THOMAS. — “Portrait.” This is rendered worthless by two serious faults, gross under exposure and the rivalry of two equally prominent high lights, the much too white face and just right white ribbon on the hat. The shadows formed by the coils of the hair and the collar are simple black paper, while to get such slight indication of light as there is on the hair, development has been forced till the face is as white as paper can be, without a trace of flesh texture. The eye wanders up and down between the white face and white ribbon and rests on neither. Sufficient exposure would have obviated that and made this a fairly good portrait of the professional variety.

1264. J. J. MASON.—“Preparing for Season,” a young man in his shirt sleeves at work on a dissected bicycle, might have been a good record of fact photography if properly lighted and sufficiently exposed, but this has been neither. All below the waist, as well as the parts on which he is at work, is simply blackened paper. It is true that a picture sometimes suggests more than it shows, but a record of fact that leaves the facts to suggestion belies its name. Try again, but see that the lighting and exposure are such as to show what you are doing.

1267. W. E. PECK.—“Saltwater Fishermen” is fairly good photography of a not very interesting or picturesque subject, but perhaps one that was worth the trouble as a record of fact. Its only fault is the rather too high tone of both sky and water, arising from over development, both of which might be reduced with advantage.

THE DETROIT CONVENTION.—The annual meeting of the Photographic Association of America is to be held at Detroit, Mich., August 6th to 9th, inclusive. It is to be an educational convention, and there is expected to be a large display of photographs of merit.

Awards in Voigtländer and Sons' Prize Contest.

The delay incident to the removal of the Voigtländer & Son Optical Co. to their new quarters at No. 137 West Twenty-third street, made it impossible for them to announce in the June edition of this journal the outcome of the competitive exhibition of pictures made with Collinear lenses, the conditions of which were announced in our April number. The decision of the judges has just come to hand, and we are able to announce to our readers that the prizes were awarded as follows:

Fifteen dollars for the best print, 5 x 7 size or over, showing high speed, instantaneous work, to Mr. S. Seaman Jones, New York City. Subject: Trotting Horses Making 2:30 Record; f-5.6; exposure 1-600 part of a second. Collinear, Series 2.

Fifteen dollars for the best print, 5 x 7 size or over, showing time work, one-half second exposure or more, to Mr. George D. Morgan, Wilmington, Del. Subject: Store Interior; f-32; 20-minute exposure by electric light. Collinear, Series 3.

Ten dollars for the best print, 4 x 5 size or over, showing high speed instantaneous work, to Mr. George C. Embury, Hamilton, N. Y. Subject: Birds at 16 to 28 Inches Diameter; f-5.6; exposure 1-100 part of a second. Collinear, Series 2.

ORANGE CAMERA CLUB—The seventh print competition of the club closed June 10, and the prizes were awarded a few days later by a jury, consisting of Mrs. Gertrude Kasebier, Mr. Rudolf Eickemeyer, Jr., and the well-known miniature painter, Mr. William J. Baer.

The first, second and third prizes, consisting of silver medals, were awarded respectively to W. H. Cheney, Rev. Charles Townsend and W. L. Pulsford.

The fourth, fifth, sixth and seventh prizes were bronze medals, and went to Mr. F. H. Gould, W. L. Pulsford and T. O'Connor Sloane, Jr., in the order named, Mr. Sloane obtaining the sixth and seventh.

Another competition of prints will be held in September, open to such members and guests as went on the annual outing of the club on Decoration Day. Two prizes are to be awarded for the best and second best prints made on the outing.

Five dollars for the best print, 4 x 5 size or under, showing time work, to Mr. Frank E. Bronson, Painted Post, N. Y. Subject: Child's Portrait; f5.6; exposure one-half second. Collinear, Series 2.

Five dollars for best print made with No. 2 or No. 3 Folding Pocket Kodak, or No. 3 Folding Weno Hawkeye camera, to Mr. Warren E. Hill, Brooklyn, N. Y. Subject: Bridle Path, Prospect Park, Brooklyn, N. Y.; f-6.8, exposure 1-100 part of a second. Collinear, Series 3.

Judges—Messrs. Alfred Stieglitz, Dr. Theodore G. White and W. W. Comstock.

Next month we will reproduce the winning pictures.

The Voigtländer & Son Optical Co. were so well pleased with the interest taken and the number of competitors that entered pictures in this exhibition, that they are making preparations for another competitive display and offer of prizes to take place late in the fall, when they hope that the number of exhibitors will be even larger than this time, owing to the many kodaks and larger cameras fitted by them during the spring and summer, which are expected to give excellent account of themselves.

The club will also have its regular lantern slide competition in October, and it is proposed to have a public exhibition of slides made by the members during the summer at the Pan-American Exposition.

A NEW DOUBLE FOCAL PLANE SHUTTER.—We note that the British *Journal of Photography* describes a new shutter invented in Germany which, instead of being one curtain with a horizontal slit in it, consists of two curtains operating in the same direction, but one ahead of the other and one being placed in front of the other. Each shutter has a series of slits at equal distances apart, so that the solid parts of one cover the slits of the other when the shutter is closed. In motion the slits pass each other in succession. Only a slight movement is necessary. The exposure is very brief.

Letters to the Editors.

A NEW PHOTOGRAPHIC ASSOCIATION.

PORTLAND, Ore.,

782 Kelly street,

June 13, 1901.

Editors AMERICAN AMATEUR PHOTOGRAPHER:

Gentlemen—I enclose herewith copy of circular letter which we are sending to each photographer in Washington, Oregon and Idaho relative to convention to be held in Portland, October 3, 4 and 5, this year.

An Organizing Convention was held in this city last October (growing out of a local organization of the photographers of Portland) with an attendance of over three hundred photographers from the three States mentioned, at which were shown thirty-four exhibits by photographers and thirteen exhibits by manufacturers and dealers. At that convention, which lasted three days, was organized a tri-State association, to be known as the "Photographers' Association of the Pacific Northwest." The officers elected for the present year are: A. L. Jackson, Tacoma, president; H. D. Trover, Salem, first vice-president; Chas. Butterworth, Portland, secretary-treasurer; J. C. S. Anne, Portland, vice-president for Oregon; E. L. Curtis, Seattle, vice-president for Washington; Horace C. Meyers, Boise, vice-president for Idaho.

The meeting for this year promises to be a large and enthusiastic affair, the need of such an organization being almost universally felt among the photographers of the "Great Northwest."

A "list of awards" to be given at the coming convention has been mailed every photographer in the three States, the most interesting item of which so far as your readers are concerned, is the "Foreign class—open to all professional photographers outside of Washington, Oregon and Idaho. One picture, any size, to be framed as desired by exhibition (without glass). First award, gold medal; second award, silver medal; third award, diploma."

Very resp.

CHAS. BUTTERWORTH,
Sec.-Treas.

A NOVEL PICTURE COMPETITION BY A WESTERN DEALER.

SALEM, O., July 27, 1901.

Editors AMERICAN PHOTOGRAPHER:

Gentlemen: Will you kindly announce the following cash prize contest to the readers of your valuable magazine:

Five cents out of every dollar, or one-twentieth of all the money received by mail for photo supplies from June 1 to December 1, 1901, will be set aside for prizes; equal prizes a first, second and third will be given on the following subjects: (a) Best Picture of Lightning, (b) Best Picture of Clouds, with Ray Filter, (c) Best Outdoor Portrait of Young Lady, taken with Violet Portrait Lens; (d) Best Outdoor Portrait, Old Person past 60; (e) Best Outdoor Picture with Duplicator.

Rules: 1. Pictures may be any size from $1\frac{1}{2} \times 2$ to 8×10 , and received by us, all charges paid, before December 1, 1901. 2. If you have purchased of us during 1901, \$5 worth, you may enter one picture in each class; \$4 worth you may enter one picture in each of four classes; \$3 worth you may enter one picture in each of three classes; \$2 worth you may enter (1) picture in each of (2) classes; \$1 worth you may enter one picture in one class. Every dollar additional bought entitles you to enter one more picture and adds 5 cents to the prizes. If a person is entitled to enter more than one picture, they may enter them all in one or in any classes they may choose. 3. Name of sender must be on back of each picture. Prints returned after December 10, 1901, if postage is inclosed for that purpose. 4. All pictures must be taken between June 1 and December 1, 1901. 5. Address them to C. R. Baker, 6-8-10 West Main street, Salem, Ohio, dealers in photographic supplies.

THE AUTOMOBILE CAMERA.—It will soon become the proper thing for a special stand or pocket to be provided on automobiles as a camera support in place of a tripod. The photographer comfortably seated can then take time exposures along the route.

Answers to Correspondents.

Correspondents are requested to notice that communications intended for the editors should be addressed to Dr. John Nicol, Tioga Centre, N. Y., from June 20th to September 10th to Point O' Woods, Long Island, N. Y.

J. A. ANDERSON.—(1) The action of the bichromate solution as a dark-room light is dependent on the fact that it absorbs most of the lower half of the spectrum. (2) The thicker the stratum the safer the light, but a quarter of an inch of saturated solution is perfectly safe for ordinary plates. (3) For orthochromatic plates, sensitive to the greens and yellows, it is not safe unless with the greatest of care; as the medium for that purpose should absorb all but the red. (4) We know of no chemical that will answer the purpose, but Cadet, the maker of the spectrum plate, makes a screen stained with dyes that is said to be perfectly safe, but just what the dyes are is a trade secret.

You should try Watkins' method of time development. We have for some time employed it with success, using ortol with a developing factor of 10.

ROSE GILMAN.—Thanks, but we cannot spare room for verses, even although they tell about what befell an amateur protographer, neither do we care for stories of the same nature. If you can write something practical, something the result of your "pretty long experience," we shall be glad to see it. Please write briefly and to the point, and don't use quite as many adjectives as you employ in your letter.

CLARK HARTLEY.—The selling of a picture now and then does not deprive you of the right to be considered an amateur, and there is no reason why you should not sell all that the dealer wants. We would recommend you, however, to call on the three professionals who do the same kind of work and ascertain what they charge, and on no account go below the price of even the highest.

Copyrighting costs little and in some cases is worth much; the word "copyright" on a picture on the walls of an exhibition sometimes induces a sale that would not otherwise be effected.

L. M. P.—The negative certainly belongs to you, but as you say it is of no value, as there will not be a demand for a print. It will therefore be better to give it up and so secure a continuance of the customer's trade. Under the circumstances you cannot copyright it.

VIRGINIA WATSON.—*Half an hour* spent in measuring and pacing distances will help you over your difficulty and enable you to focus correctly with the scale. A pacing gauge, two laths fastened together in the form of a V, the open ends say three feet apart, will be found convenient.

FRANK S. WILLIS.—The negative came broken into a dozen pieces, but they show unmistakably that the yellow stain is not the result of insufficient washing, but of insufficient fixing—of having been removed from the fixing solution before the action was complete. Such stains are rarely if ever caused by insufficient washing, that of a trace of hypo having been left in the film, but from the presence of a double salt of hypo and silver which no amount of washing will remove.

R. W. BOOTH.—Prints toned and fixed in what you are pleased to call our "simple and excellent formula" are as permanent and as fine in color as silver prints toned and fixed in separate solutions, provided the bath be properly wrought. That is, if no more than the proper number of square inches of prints be toned and fixed in any given quantity of solution. The danger lies in continuing to use the bath after it has become charged with the insoluble double salt of hypo and silver, and the gold has been exhausted, the temptation to do so being in the fact that at that stage the bath continues to give beautiful colors, and the evil is only recognized after the print has been for some time exposed to light.

D. R. MORRIS.—We are not surprised at your want of success, as we have said again and again that it is as easy to acquire a knowledge of the higher mathematics without an acquaintance with the multiplication table as a knowledge of photography from practice with the hand camera. Stick for a year to the camera on the stand, and when you have learned to recognize the effects of under and over exposure and many other things that can be learned by or through the camera in that position, you will perhaps be able to do good work with the camera in the hand. The subjects and conditions are few and far between that can be photo-

graphed to perfection without more exposure than is included in a "snap."

W. BROWNING.—The No. 5 by all means, simply because it is of longer focus. Better, far better a 10-inch rectilinear than the No. 3a of the anastigmat you mention. It is true that it is a perfect lens, but if used on a plate larger than 4 x 5 the view point will be too close to give anything like a correct perspective, that is a perspective that will appear to be correct.

DAN. MILLER.—There is nothing to choose between the formulæ nor can we suggest anything better. Stick to the one or the other till you know how to make it do just what you want, and when you know how to modify it for various purposes you will find keeping the various items of which it is composed in 10 per cent. solutions convenient.

CHAS. M. DARLING.—The figures on the lens are the U. S. numbers, 3 being $f/6$, 8, 4 $f/8$, 8 $f/11$, 31, and so on, each succeeding number being just half the area and requiring just twice the exposure of its predecessor. In mentioning a certain size of plate in connection with each lens the optician does not mean that

the lens *should* be employed on that size, but only that the lens will perfectly cover that size. In selecting a lens from the list referred to, or indeed almost any list that gave the sizes of plates the lenses would cover, we should always choose the lens for the one next larger.

MARTHA L. ANDERSON.—You would derive pleasure and perhaps profit, too, from an acquaintance with the metrical system of weights and measures, but till you do, without a set of metrical weights and measures you need have no difficulty in translating the metrical formulæ in question. Photographic formulæ in the metrical system is generally confined to grams and cubic centimetres, and as they are practically identical they may be taken as parts, each part being a certain number of grains, a drachm, or an ounce; and the cubic centimetre the same number of minims, a drachm or an ounce by measure. With the formula you send for translation, suppose we take ten grains as a part; the 1 gram by the simple addition of a cipher becomes 10 grains, the 15 c. c. becomes 150 minims, the 1.2 gram by the simple lifting of the point is 12 grains, and so on.

Society News.

Secretaries of camera clubs or photographic societies or associations are respectfully requested to send to Dr. John Nicol, Tioga Centre, N. Y., from June 10th to September 20th to Point O' Woods, Long Island, N. Y., reports of meetings, copies of papers that have been read before the members, or anything of general interest that they would like to appear in the journal.

MONTCLAIR CAMERA CLUB.

At its meeting on Tuesday evening, June 25, the Montclair Camera Club awarded prizes to its members who competed for them in the two classes arranged.

The first was a competition for work done by the club's portrait lens. In this class the first prize was given to Walter Bonner, secretary of the club. The second prize went to William B. Smith and the third to T. S. Doremus.

The second contest was for portraits taken by any lens which was desirable, and the first prize was awarded to Louis K. Mulford for a fine portrait of Rev. Dr. Bradford. The other prizes were given to Charles R. Pratt and Henry Lang.

An exhibition of prints, by William H. Crocker, of Montclair Heights, which was loaned for the occasion, was greatly

admired. The evening closed with a fine set of lantern slides.

BROOKLYN ACADEMY OF PHOTOGRAPHY.

At the annual meeting of the Brooklyn Academy of Photography the following officers were elected: President, Sherman B. Price; vice-presidents, Alexander N. Cook, Wm. Bogert Walker; recording secretary, Walter C. Daggett; corresponding secretary, Harry E. Hayes; treasurer, Alexander S. Ingram; librarian and curator, Chas. G. Balmanno; trustees, William Arnold, John M. Tallman, Samuel Maron, Edward Esmonde, Wm. T. Vintringham. The president appointed the following chairmen of committees: print, Walter C. Daggett; lantern slides, August A. Goubert; technical, Sherman Esselstyn; membership, Alexander N. Cook; rooms, Chas. G. Balmanno; historical, Wm. Arnold;

photo-outings, Wm. T. Wintringham; entertainment, Sam'l Baron; press, Wm. Bogert Walker.

The print committee, Mr. A. N. Cook, chairman, received during the year (October-April) 348 prints, of which 302 received 60 per cent. or over at the monthly contests, and thus became eligible for competition at the annual exhibition. At the annual exhibition, the gold medal for best set of prints was awarded to Mr. Edward Esmonde; the silver medal for second best set to Mr. H. B. Fullerton. Blue ribbons were awarded in following order to A. N. Cook, H. B. Fullerton, A. S. Ingram, Edward Esmonde, C. G. Balmanno, C. S. Reynolds, Ed. Esmonde—H. B. Fullerton (2), Ed. Esmonde (2). Red ribbons to Ed. Esmonde, Geo. D. Pratt, Wm. Arnold, A. S. Ingram, Sam'l Baron, Wm. Arnold.

From the first six a subsequent vote awarded the bronze medal for the most artistic print to Mr. H. B. Fullerton, with Mr. C. S. Reynolds a close second.

The lantern slide committee (Dr. S. B. Price, chairman), reported: Four illustrated lectures and talks for members and their guests, given by Herbert L. Bridgman on "Peary Seeking the Pole"; Mr. Alex. T. Van Laer, the distinguished

artist and art lecturer, on "The School of American Artists"; Mr. Sam'l Baron on "Paris and Its Exposition"; Dr. S. B. Price, "Spinning Yarns." An illustrated talk to the members only was given by Mr. Van Laer upon "The Composition of Pictures from an Artist's Standpoint." During the year 384 slides were received, of which 172 received 60 per cent. or over at the monthly contests, entitling them to place in the annual exhibition. At these monthly contests awards were made as follows: Wm. Arnold, two first, one second; Ed. Esmonde, two first, two second; H. B. Fullerton, two second; A. A. Goubert, one first; A. S. Ingram, one second; S. B. Price, one first; J. W. Turner, one first, two second. At the annual exhibition the gold medal for best set was awarded to Edward Esmonde; silver medal for second best to H. B. Fullerton. Blue ribbon to A. A. Goubert. In special class work ribbons were awarded to S. B. Price (2), A. A. Goubert, Ed. Esmonde (3), A. S. Ingram, H. B. Fullerton.

All awards in the B. A. P. are made by vote of the members. The entire exhibition this year was of an exceptionally high order, and received many favorable commendations from various sources.

Recent Patents and Trade Marks.

The following digests were furnished by Messrs. Davis & Davis, patent attorneys, of Washington, D. C., and at St. Paul Building, Broadway and Park Row, New York.

671,154—PANORAMIC CAMERA.—Peter N. Angsten, Burlington, Wis.

The camera box is provided with a swinging lens-holder and a film support means for arresting the motion of the lens-holder at any point, and a shutter adapted to be operated to make an exposure at any point in the movement of the lens-holder whereby varying lengths of film may be exposed.

671,213—PHOTOGRAPH AND MOUNT.—Ralph W. Johnston, Crafton, Pa., assignor to Ralph W. Johnston & Co., Pittsburg, Pa.

The mount consists of a base of flexible cloth, a print pasted on one side thereof, and a thin tissue back pasted on the other side, and closely incorporated with the base and constituting a counter-acting medium whereby the curling tendency of the print is obviated and the mount maintained in a flat condition.

670,117—PHOTOGRAPHIC SHUTTER.—John E. Thornton, Manchester, England.

A single blind travels in one direction for exposure and is provided with an automatic timing device to arrest the travel of the blind in order to commence the exposure and to allow it to restart in order to terminate the period of exposure, such timing device being adjustable to a predetermined time in order that after the timing device has been set in action it shall operate the shutter blind automatically without attention from the operator.

671,075—PHOTOGRAPHIC PRINT WASHER.—Thomas White, Vallejo, Cal.

It is comprised of a cylindrical vessel, an inlet pipe discharging obliquely through the curved side thereof, and a wall extending inwardly and obliquely from the curved side of the vessel adjacent to the inlet pipe to direct the wa-

ter inward away from said pipe whereby the inflowing water will be given a circulatory motion.

669,616—VIGNETTING FRAME FOR PHOTOGRAPHY.—Robert Burgess, Jr., Congleton, England.

A printing frame is provided with a vignetting band which is formed with a series of various sized openings and means are provided for moving said bands over the printing frame to bring the desired openings in position.

670,118—PHOTOGRAPHIC STRIPPING FILM.—John E. Thornton and Charles F. S. Rothwell, Manchester, England.

Consists of an opaque paper base and a layer or film of sensitive emulsion, and a layer of stripping medium composed of a fatty and resin acid dissolved and dried, interposed between the base and the sensitive emulsion to render the latter capable of being stripped off and removed without extraneous aid.

670,165—DEVELOPING TRAY.—Auley B. Sheppard, South Burgettstown, Pa.

The tray is formed with a solution containing cup at its lower end, a support for the lower end of the plate above said solution cup, a transparent sheet closing an opening in the bottom of the tray, and clamping means whereby the plate may be held to the transparent plate. In operation the tray is held in an upright position to cause the solution to enter the cup. The plate is placed in the bottom of the tray and clamped, and the tray brought to a horizontal position. When it is decided to examine the plate the tray is placed in an upright position to cause the solution to run back to the cup and the plate may then be examined through the transparent bottom of the tray and may be readily removed when desired.

670,154—FOLDING PANORAMIC CAMERA.—David H. Houston, Hunter, N. D.

The camera case is provided with an adjustable front board which is connected to a bellows, the lens is mounted on the front board and is adapted to swing horizontally on central vertical pivots. The film is supported on a curved plate and means are provided for swinging the lens on its pivot, whereby the film on the curved support will be exposed. The lens board and bellows are adapted to fold into the cavity formed by the curved film support.

670,233—FOLDING PANORAMIC PHOTOGRAPHIC CAMERA.—David H. Houston, Hunter, N. D.

The bellows is attached at its rear end to the camera case; a box front is attached to and closes the front end of said bellows, and the lens is pivoted in said box front and circular film guides are mounted in the case. Means are provided for projecting the box front to a position where the lens will focus upon a film held upon the film guides.

669,493—KINETOGRAPHIC APPARATUS.—William H. Reid, Washington, D. C.

Means for projecting light rays in a certain path is combined with movable reflecting means arranged to receive certain rays and cause them to travel in another path and a movable image surface or film arranged to intersect said rays. The reflecting means is moved bodily in such a manner that the angle which the reflecting means makes with the reflecting rays remains constant during the periods of illumination.

671,466—APPARATUS FOR WASHING PHOTOGRAPHIC OR OTHER PRINTS.—Harry B. Brockett, Jr., Pittsburg, Pa.

A tank is provided with a vertical water supply pipe which extends to the bottom of the tank and is provided with a long narrow horizontal discharge opening from which the water flows along the bottom of the tank.

672,703—HOLDER FOR CAMERAS.—William V. Esmond, Chicago, Ill., assignor to Frank P. Leffingwell, same place.

Below the tripod-head and surrounding the camera holding screw is a coil spring whose upper end bears on the bottom of the tripod-head, a screw nut on the holding screw compresses the spring and causes the camera to be yieldingly clamped to the tripod.

670,635—TIMING ATTACHMENT FOR CAMERAS.—Bernhard Hernhuter, New York, N. Y.

The shutter mechanism is provided with an alarm mechanism which sounds the instant the shutter is operated.

672,333—SHUTTER-RELEASING DEVICE.—Benjamin A. Slocum, Lynn, Mass., assignor of two-thirds to William A. Dunbar and Minnie M. Dunbar, same place.

A time fuse is connected to and controls a spring actuated means for supplying air to the shutter mechanism, whereby the shutter is operated when the fuse is burned out.

"THE HAUNT OF THE HARE."
BY
CARL C. DISTLER.

No. 1281.

(See "Our Portfolio.")

THE
AMERICAN AMATEUR PHOTOGRAPHER

VOL. XIII.

AUGUST, 1901.

NO. 8.

Photography by the Sea.

THIS will reach the eye of our readers about the height of the holiday season, when thousands on thousands of inland dwellers will be seeking rest and recuperation at the seaside, and as rest and recuperation mean, or ought to mean, change of occupation, neither can be secured, in the highest degree at least, without congenial employment.

No. 1287 By Dr. J. Y. Simpson.
"SUNSET ON DIAMOND LAKE."
(See "Our Portfolio.")

Judging from observation extending through at least a decade, photography is the favorite occupation, as it is within the mark to say that probably 10 per cent. of all summer resorters, and certainly not less than that proportion of seaside visitors, carry each a camera of some kind; many, perhaps most of them, snapping away in season and out of season with little regard to, and less knowledge of, the limitations of the art generally and of their own instruments in particular.

To probably nine-tenths of those we have nothing to say. To them photography is merely an amusement, and although few of their snap-shots will yield a developable image and fewer still be worth printing when developed, their disappointment is hardly greater than their expectations.

But there are a few who expect more, and having tried to learn something of the work in which they are engaged, both from friendly inter-

course and the reading of such books as deal with it, deserve better success than generally falls to their lot. Samples of such work lie before us now by the dozen; a few, a very few, fairly good photographically, although tame from faulty selection, but the great majority, absurd as it may appear, is utterly worthless from under exposure. Their authors having consulted their more experienced friends and read up the writings of the so-called experts, had stopped down their lenses to $f/32$ or less and set their shutters to something like the 1-50 or even 1-100 of a second, and fired away altogether irrespective of the nature of the sub-

No. 1284.

By E. M. Hulbert

"THE WILLOW WHISTLE."
(See "Our Portfolio.")

ject or the light. Now, where "marine subject" means only a sheet of water with probably spray and foam in the foreground and perhaps one or more vessels in the distance, and with the sun high enough to well light both the crests and troughs of the waves, such brief exposure with such limited apertures may be sufficient; although we confess to never having found them so, even with the most rapid plates procurable; but the picture maker generally looks for something more in his subjects and prefers other conditions of lighting and thereby comes to grief.

We have before us a typical subject and with the usual, or at least the far too common result, everything either whiter or blacker than almost anything generally found in nature. The subject, not the photograph, has in the foreground from right to about one-third from the left, rippled yellowish grey sand, over which flowed at the moment of exposure a considerable quantity of greyish white foam, caught, if snapped at the right time, during the moment of rest as the movement changed from advancing to receding; and on the left a mass of picturesque rock in various degrees of light and shade, the darkest of which was far from black, indeed hardly darker than "middle-tint." About the centre of the middle distance a wave had struck against a mass of low but projecting rock, sending up a

cloud of spray to a height of several feet; and to the right and behind of that right on to the horizon, wave after wave rolling in, but at a considerable angle to the point of view, the crests and troughs beautifully contrasted in half-lights and half-darks, with here and there a crest tipped with highest light.

A fine subject truly, but how has it been photographed? The yellowish grey sand and the nearly white foam are in the negative perfectly opaque, and in the print the highest of high lights, simply white paper. The rock, instead of its variety of light and shade, is as white as the sand and foam on such parts as had been touched by direct light, while the lightest and deepest shadows are alike as black as the paper can be made. The spray is more like a large tuft of cotton-wool than the sparkling translucent drops of water, and the crests of the waves, including the "whitecaps," are all of one uniform white, while the troughs are equally and uniformly black.

We learn from the legend on the back of the mount that the plate was one of the most rapid, the aperture $f/32$, and the shutter set to 1-75 of a second, and that the developer was of normal strength, just such conditions as are recommended by most of those who have written on the subject; and from our point of view, and as the result of considerable experience, the cause of the failure is not far to seek. It is insufficient exposure.

For such a subject, or for any subject the proper rendering of which requires the dealing with shade as well as light, the keynote or mainspring of success is an exposure long enough to produce a developable image of such light as there may be in the shadows, and that shadow detail must be impressed strong enough to be sufficiently developed before the lights in all their various degrees except the highest have, in the negative, become opaque.

No. 1277.

By F. E. Bronson.

'JUST UP FROM THE MEASLES.'
(See "Our Portfolio.")

As we have said in reply to the "typical letter" on another page, and it cannot be too often repeated, when developing a plate on which the shadows have not been sufficiently impressed, development is forced in the expectation of bringing out what is not there to bring, till by accumulation lights from the highest to the lowest print equally white. This is equally, if not more, applicable to marine photography, and is well illustrated by the print in question. Had the exposure been sufficient to impress the deepest shadows on the rocks—not much more than half-darks—the spray, foam, and whitecaps would have appeared as soon as they did, but before they had been developed beyond each its degree of translucency, the detail in even those deepest of the shadows

No. 1276.

By R. H. Clark.

"THE FIDDLER."

(See "Our Portfolio.")

would have been secured, and the resulting print, instead of simply white and black, would have included every desirable degree of gradation.

While it is true, then, that marine subjects including little beyond the water and the vessels on its bosom may be successfully photographed with comparatively small apertures and rapid shutters, it is no less true that where there are shadows as well as lights, nothing short of an exposure sufficient to impress that shadow detail will give a negative worth printing from.

Just what that exposure should be in seaside photography every one must learn to judge for himself, never forgetting that it is not the sea but its setting—the foreground, rocks and other matter more or less dark, that needs especial care to be exposed up to. No doubt such work is difficult in consequence of the unusually great contrasts; but the credit due to its successful accomplishment is equally great, and he who will work on the lines here laid down, and get his detail with a developer weak in reducing agent, strengthening it afterwards so as to secure sufficient density, will be on the high road to success.

The Shutter, the Stop, and the Exposure Meter. III.

HAVING learned how to ascertain the true equivalent focus of our lenses and the true relation of the stops therewith furnished, or how to make a set with such relations as we find most suitable, it yet remains to make the shutters tell their own story before we are in a position to employ the exposure meter to advantage.

Of all the methods proposed for the measuring of shutter speeds none is simpler or more accurate than that devised by Professor W. H. Pickering, of Harvard University, and as the apparatus is made by the Carter Ink Company, of Boston, and costs, complete ready for use, only fifty cents, we shall not occupy time and space with other methods; especially to use the common phrase, as it is so simple that a child could carry it out.

The apparatus consists of a diagram of black paper fifteen and three-quarters by five inches, divided by solid white lines into tenths, and these by dotted white lines into fifths; a silver lined glass ball suspended by a string exactly one metre in length (about thirty-nine and a half inches), and the lid of the box which contains them, in which there is a series of holes for the peg carrying the string pendulum. These holes are placed

one above another, so that a series of measurements may be made without moving the diagram, by merely lifting the peg one hole higher up; or where very accurate measurement is an object, making several exposures of one speed and taking a mean of the whole.

The directions are extremely simple, but probably a description step by step of the last examination we made will show better than anything else how it is done.

The chart or diagram is fastened to the wall in bright sunshine, in a position level with the camera, and the cover of the box with the peg holes tacked above it, high enough for the ball, when the peg is in

the lowest hole, to be just above its lower edge and directly in front of its center line. The camera was moved back and forth till the image was the proper size, about six inches on a 7 x 5 plate, and focused. The shutter was set and the slide withdrawn, and the pendulum set a-swinging. It should be started from several inches beyond the end of the scale, the eye kept on that end, and the bulb pressed the moment the swing has been reduced to the exact length of the scale.

The speed numbers of the shutter tested are marked on a dial and the setting is done by turning a pointer to the desired number. We first set it at "2," which means half a second (0.50), and at that we made three exposures, each time lifting the peg one hole higher. The pointer on the dial was then set to "25," the 1-25th (0.04), and three exposures made in the same way; and to 100 (0.01), with a third set of three exposures.

Development showed that the shutter, being an excellent piece of workmanship, had done its work with great regularity, each set of three lines being practically identical, but not quite so with the indicated speeds. The half second lines (white on a black background), instead of extending over five of the spaces included in the solid lines of the scale (0.50), reached only over four and two of the spaces between the dotted lines, and therefore only 0.46. The 1-25, instead of 0.04 was 0.06, and the 100, instead of 0.01, was only 0.03; the first faster and the second and third slower than the indicated times.

While, with most shutters, it may be impossible to adjust them so as to bring the speed into accord with the markings, it is easy by this method to ascertain just where errors lie, and either to scratch correct markings on the dial or to make the necessary allowance in setting the pointer.

The photographer who has followed us thus far will now be in a position to employ intelligently and effectively one or other of the various exposure meters, of which there is a variety from which to choose. They may be broadly divided into two classes, (1), simple tables, and tables in the form of a slide-rule, which take into account only times, seasons, subjects, and different kinds of light; and in which the personal equation has a good deal to do; and (2), those which substitute for all or most of those an actinometer test, and in which the personal equation counts for little. While the tables have the advantage in the point of cost, and are helpful to those who have had considerable experience and the ability to correctly estimate the actinic value of the light; those who have neither will find the second class, the meter with the actinometer test, very much better.

The most popular instruments of this class are the Wynne, the Watkins, and the Expodak, all practically on the same principle and probably all equally trustworthy. Although we have used all three with equal satis-

"A PORTRAIT STUDY "

[Voightlaender & Sons' Competition Collinear Series II, No. 7, f/8.]

By George C. Embury.

[Second Prize (Speed) Voigtlaender & Sons' Competition]

faction we have used the Wynne more frequently and are better acquainted with it than with either of the others; but while the following description applies especially to it, as they differ mainly in form, it will, to a large extent at least, apply equally well to the others.

The Wynne "Infallible" Exposure Meter is in size and shape like an ordinary watch, but how it is arranged and how operated will be told in our next.

(To be continued.)

THE \$25.00 cash contest of Henry Ferris, Philadelphia, noticed in July issue, will remain open for entries until September 15th.

WE call the attention of our readers who may be desirous of adding to their lens outfit, to make known their wants to the old reliable house of Benj. French & Co., 319 Washington street, Boston. They are special agents for Voigtlaender & Sons and Darlot, and carry the most complete stock of lenses of any one house in their line.

Another Typical Letter.

NOTWITHSTANDING all that we have written about exposure, the one thing in photography on which all else depends, letters, of which the following is typical, continue to come, and prints of the "soot and whitewash" variety continue to bulk in "Our Portfolio" to an extent that is discouraging.

But we are not made of the stuff that gives up, and gladly reproduce this letter for the opportunity that it gives us of going over the ground again in the hope that the personal interest thus introduced may make the teaching stick where it is most needed.

Dear Sirs:—I wish to call attention to your criticism of No. 1,231, "Two Little Wanderers," and say that there is an apparent conflict therein. In the first part you say that it is underexposed, and then say that the path is as white as the sky above it, and the trees simply dark lines without a suggestion of roundness or relief. Had the exposure been longer the path would have been more white. The trouble was in this case that the exposure was made in bright sunlight, and there is something in sandy roads and paths, withered grass and straw that makes them appear white in a photograph taken in bright sunlight. There is only one way of avoiding that condition, to take the picture in cloudy weather, or expose in bright sunlight for the shadows and reduce the high lights by local reduction. The

amateur has much to learn, but one of the most essential points to learn is to select a cloudy day for nearly every subject, and to take only such subjects as need sunlight on a sunny day. This is one of the points that has not been given enough prominence in instructions to amateurs.

Yours, &c.,

WILL. G. HELWIG.

The fundamental error of our correspondent is contained in the statement "Had the exposure been longer the path would have been more white." The very reverse is the truth. Had the exposure been longer, sufficiently long, the path would not have been so white nor the trees so unnaturally black, and for the following reason:

The natural landscape contains few, more frequently none, of either the highest of high lights represented in the print by white paper; and equally few or none of the deepest darks represented by paper as black as it can be made; but lights considerably lower than white and shades considerably lighter than black, and a long scale of gradation between. Light transmitted by the lens affects the sensitive film in proportion to its quantity or intensity, but unless the weakest, that is the light reflected from the shadows, be sufficient, that is, allowed to act long enough to produce a developable image, correct gradation, true values or tonality cannot be secured.

"THE MEADOW BROOK."

By E. S. Butterfield.
(Orange Camera Club.)

To make the point still clearer, suppose a landscape includes only five steps of gradation, light, half-light, middle-tint, half-dark, and dark. The "light" will be darker than white paper, and the "dark" will not be nearly black, but rather what is understood by a transparent shadow; and the degrees will be there whether in sunshine or shade, their relation only being different. To secure this transparency in the shadows—our "darks," the exposure *must* be sufficient for the weakest light from the landscape or other subject to first overcome the inertia of the sensitive salt and then to impress a developable image; hence the old but ever true advice "expose for the shadows and the lights will take care of themselves."

And this brings us to our correspondent's mistaken belief, "Had the exposure been longer the path would have been whiter." Without going into the theory of development it will be sufficient to say that the action is cumulative; once started it continues to build downward; and with a speed, or in proportion to the quantity or intensity of the light that has acted on the various parts of the film. On a plate that has been correctly exposed every part of the image makes its appearance in the order of the varying intensities; and by the time the darks have reached the desired transparency, or that sufficient shadow detail has been gained, the lights have reached sufficient density without being so dense as to print white.

But with under exposure it is not so. When the exposure has not been sufficient to impress the darks, or even, as is more frequently the case, the half-darks, development brings out first the lights, then the half-lights, and probably also the middle-tints, and there it stops. If the operation be stopped at this stage those three gradation steps would probably be correct in their tonal value, but the rest of the film would be transparent, and so development is continued in the hope of getting something more, till by accumulation of reduced silver, lights, half-lights and even middle-tints, including the skies, are all alike opaque in the negative and white paper in the print: and that too, without getting anything more out of the shadows, and resulting in, as we have already said, "soot and white-wash."

Briefly, under exposure leads to over development and blocking of the higher steps of gradation to one uniform opacity in the negative, leaving the lower with little better than bare glass: while with sufficient exposure the necessary transparency and detail in the shadows are secured before the lights have passed beyond the desired density.

How I Turned My Photography to Account.

BY R. W. BAKER.

LIKE probably twenty per cent. of all the men and women—especially the women of the country, I caught the photographic fever, following what I now know to be the foolish fashion of beginning with a hand camera, and consequently, during the first two seasons at least, spending much time and no little money with no return to myself but hope, and no good to any one but the dealer.

But I kept on snapping. Others had succeeded and why should not I? Until I read in *THE AMERICAN AMATEUR PHOTOGRAPHER* something to the effect that it is as foolish to expect to acquire a knowledge of photography through working with the hand camera, as to

Asher N. Read.

"TWINS."

expect to become an adept in the higher mathematics without a knowledge of the multiplication table. This set me a thinking and started a series of enquiries which resulted in the discovery that others did not succeed better than I, and I there and then abandoned the hand and took to the stand.

The result was a revelation. Instead of beginning to develop in a half-hearted way, lucky if I got one passable negative out of a day's snapping, good technique soon came to be expected every time, and I began to feel that even pictures were not altogether beyond my reach. But even pictures began to pall. It is with me as with many others: so long as success is in the distance I can give the quest enthusiastic attention, but with the reaching of the goal the interest ceases and what was a labor of love becomes a task.

Just three years ago my photography had reached this stage, and not having been blessed with the artistic temperament the production of technical or even pictorial photographs ceased to give the desired pleasure. I had enough and more than enough of prints to bother my friends with, and getting tired of making negatives that were never printed, was in danger of throwing the whole thing up, when an itinerant lecturer renewed the

lost interest by showing me how those negatives could be utilized to my own satisfaction and the pleasure and perhaps profit of my fellow villagers.

My lines are cast for about three-quarters of the year in a village too small for any itinerant entertainment higher than the tent with the performing dog, and seeing the delight of our villagers with the oil lighted lantern exhibition of the itinerant lecturer referred to, suggested the idea of making slides from my negatives and giving them a weekly show during the winter.

Thanks to the back numbers of THE AMERICAN AMATEUR PHOTOGRAPHER, I soon became an adept at slide making, and the success of the first season was so great that I have con-

No. 1282.

By W. E. Cogswell.

"MAY FLOWERS."

(See "Our Portfolio.")

tinued it ever since. I have become an amateur Stoddard or Burton Holmes, my camera is my companion in all my wanderings, every exposure that I make being with a view to its being worked in as an illustration to some part of a story of fact or fiction to be told to our people during the winter.

And this has given a new charm to photography. The having an object in view creates an interest and gives a degree of pleasure altogether foreign to the snap-shotter or even to the photographer who aims only at pretty pictures. Everything is grist that comes to my mill, whether it be scenes of everyday life, the light of other days in the shape of a deserted log house, some of the vagaries of modern architecture, the surf with its crowd of joyous bathers, or the massive beauty and grandeur of the rock-bound coast. Sometimes the story is already outlined and suitable illustrations looked out for and, as it were, made to order, but more frequently the negatives are made irrespective of subject, the only condition being that they shall yield attractive slides, and the story evolved from them.

The negatives are on 4 x 5 plates, and I generally manage to include

all that is desired in a space of about $3 \times 2\frac{1}{2}$, so that the slides may be made by contact printing and by artificial light, thus furnishing delightful work for the winter evenings as well as the summer days.

Does it pay? Well, I should say so, and in a way that those who have not tried photography with an object in view cannot comprehend, nor those who have not experienced the pleasure that comes from giving pleasure to others, understand. For at least one night in each week the corner grocery and the "tap room" in connection with the one hotel are deserted, every home in the village sends its quota. I always include something for the younger members, and, even when the weather is such that the dwellers in cities would hardly come out of the house, the farmers and their families for several miles around help to fill to overflowing the ground floor of the school room, which holds considerably over four hundred.

Yes, it pays. It pays in the increased interest that it has given to my photography. It pays in the greater care that it compels, as I have others to please as well as myself; but it pays most and best of all in the happy faces that I meet weekly, and in the knowledge that I am, in some small degree at least, helping those who are least able to help themselves.

I may add that I use a six-foot screen, a single lantern with acetylene as the luminant, which leaves nothing to be desired. The generator, the burner and the *modus operandi*, as well as the method by which I make really excellent slides, I may describe in a future notice, for the benefit of any one who happens to be similarly situated and who may desire to follow what I am egotist enough to think the good example.

Polychromatic Plates.

AS is well known to our readers, we have again and again urged the use of orthochromatic plates to the exclusion of all others, and as often expressed our surprise that, other things being equal, plates sensitive to hardly if at all above the blues should be preferred to those that included the greens and yellows.

There was, no doubt, some excuse for this conservatism in the early days of orthochromatism, when the photographer had to orthochromatize the plates for himself or when the commercial article had but doubtful keeping qualities, but there can be none now when they cost no more than the ordinary plate and are in every respect as good.

The ordinary plate, sensitive only to the blues, records the other two colors and their combinations merely by the white light reflected from them, while the hitherto orthochromatic variety takes account also of the

yellows and greens. Great as is the superiority of the orthochromatic over the ordinary plate, it still fails to do much for the reds, and so far as we know, the well known "Spectrum plate," used in England by most of the three color workers and imported into this country by some of them, has been until now the only one that attempted to make a fairly good record of all three.

Seeing that the output of American plate makers, in all the qualities that go for goodness, is at least equal to that of those of any other country except as regards orthochromatism, it is fit that Mr. Carbutt, the pioneer in American plate making, should be the first approaching that; and if we may judge from the series of prints from tests made with the Chapman Jones' plate tester and a large bouquet of dark red, pink, and white peonies photographed without color screen, his newly introduced Polychromatic plate has solved the problem.

As a matter of course, although the polychromatic plate is sensitive to all three colors, it will not be equally so, that is, it can hardly be expected to reproduce them according to their degrees of luminosity, and the lower part of the spectrum will still need to be retarded by a suitable color screen. This Mr. Carbutt has provided, as also a "safe light" glass, under which the plates may be comfortably developed.

As we have said in another place, although we have got a supply of the polychromatic plates we have not had the time for the necessary experiments, but shall return to the subject in our next.

Natural Backgrounds for Portraits.

BY J. R. LINDSAY.

ANY one taking the trouble to examine the catalogues of our Salons and one-man exhibitions, or the illustrations in the photographic journals, cannot avoid the conclusion that the members or supporters of the so-called "American School," as well as those who have come to the front and whose names are as household words in photographic circles, are largely, if not exclusively, given to portrait and *genre* work; and some idea of the difficulty of those phases may be formed from the fact that of all the thousands who essay it, those that are really successful may be numbered by two figures, and the first a fairly low one.

One of the many reasons why failures are so many and successes so few is the background difficulty. The ever ready blanket or tablecloth shows the folds in a way that is generally distracting, and if the amateur should try out of doors he finds the brick wall or the obtrusive and ill

defined foliage worse. Under these circumstances it is strange that the simple method of supplying natural backgrounds, once so common, should be almost, if not altogether, forgotten. To those who were wont to employ it, the number of backgrounds from which to select the one most suitable for any particular portrait or group was limited only by the number of landscape negatives at his command, and hardly even that, as in the event of not finding one in his collection he could tuck the camera under his arm and get just what he wanted.

Although the method is so simple and so certain that even the proverbial child might carry it out without the chance of failure, the result is really charming and never failed to delight the amateur and his friends and bring money to the pocket of the professional who adopted it.

The first step is to settle what the portrait or *genre* subject is to be, whether in repose or action, and what kind of a background will best carry out the conception. Then photograph the figure before a white or very light background. The negative so made is printed on albumenized or other P. O. P., making a properly printed out figure or figures on a white or very light background. Those figures are then well covered with a suitable nonactinic water color—gamboge was generally used and answers admirably. It only remains now to print the selected negative as if it were an ordinary landscape, but better with the interposition of a sheet of celluloid or even thin glass between the partly printed paper and negative. Just how deep the printing should be can be learned only by experience, the object being to secure a feeling of atmosphere between the figures and the surrounding landscape.

The print is next toned and fixed in the ordinary way, either in the combined bath or separate solutions, seeing that the preliminary washing is sufficient to remove the whole of the color that had protected the previously printed figures. A single trial will show both its simplicity and its beauty, and, with a suitable collection of negatives, how easy it is to produce effects otherwise unattainable.

Speaking of a "suitable collection of negatives" reminds me that this is just the season when such can best be secured. Those who may think of trying the natural background method and who are enjoying their holidays at the seaside or elsewhere, should take advantage of the opportunity, think out subjects for future work, study just what will be most suitable and where the figures should be placed, and make negatives of all kinds for the purpose.

Of course it will be understood that both figures and landscape background must be lighted in the same way, or from the same direction; hence, should the conditions be such that the figures that are to be taken at home can only be lighted in one way, care must be taken in making the negatives that they are lighted in the same way.

The Light in the Dark Room.

BY GEORGE D. MASON.

I BELIEVE that the misnomer "dark" as applied to the photographer's laboratory is responsible not only for much of the photographer's discomfort during the performance of his duties therein, but also for the unsatisfactory character of much of that work; and if anything that I can say as the result of many attempts to better my condition while developing shall help others to the comfort I now enjoy I shall be glad.

Just why the operating room came to be called dark it is hard to tell, as in the earlier days of photography, and especially during the reign of wet and simply iodized collodion, it was very much lighter than now. Indeed, unless the window was exposed to direct sunlight a single sheet of yellow glass, especially if it was slightly orange, was found perfectly safe, even while every corner was flooded so that a newspaper might be read in any part. The introduction of silver bromide not only increased the sensitiveness of the film, but also brought that sensitiveness higher up the spectrum, necessitating a deeper orange but still giving a light in which reading was easy and work carried on in comfort.

The first great change came with the substitution of gelatine for collodion, induced by a popular misconception of the real effect of that substitution; the belief that in addition to a vastly increased sensitiveness there had also been another climb up the spectrum, so far up indeed as to include combinations of green and red. This, although a mistaken belief, resulted in the almost universal adoption of a ruby glass or fabric, and the nearer to a pure red the better. But pure reds were difficult to get, many indeed including sufficient blue to fog the more sensitive emulsions, until, in despair of producing a really safe light a remedy was sought in the reduction of the amount of such as could be got.

In this way the source of illumination became smaller and smaller, till thousands of photographers were content with panes of so-called ruby of about $4\frac{1}{2} \times 3\frac{1}{2}$ that did little more than make darkness visible and made development not only uncertain, but a weariness of the flesh instead of the interesting pleasure that, with a sufficient and safe light, it is.

Such a light is to be found in a solution of potassium bichromate, the only difficulty being to find a suitable cell in which to hold it; although I have no doubt that as soon as its advantages are generally known such cells will be placed on the market. In the meantime others may do as I did, and secure a light which, while perfectly safe under suitable conditions, enables me to work as comfortably, if not more so, as with an unshaded lamp. I found in one of the older stock houses an old wet collodion bath of pressed

glass about 10 x 8 inches and three-quarters of an inch wide. This, filled with a 6 per cent. solution of the bichromate salt and placed before an ordinary kitchen kerosene lamp with one and a half inch wick and the ordinary reflector, fills my eight by twelve feet room with a pleasant orange light by which labels can be easily read in the most distant corner. I need hardly add that the lamp is enclosed in a suitably ventilated box with grooves into which the bath slides, an arrangement which any one can devise and carry out for himself; but may say that until I got this arrangement I never really knew how much pleasure may be found in development.

Of course, when I say that light transmitted through three-quarters of an inch of a 6 per cent. bichromate solution is perfectly safe, conditions of safe working is implied. The plates, especially the more rapid, should not be exposed to it longer than necessary. The tray need not be nearer the lamp than three feet, nor remain uncovered longer than for an occasional examination; although after the image has proceeded sufficiently to warrant closer inspection, by transmitted light, it may be held in the usual way close to the solution holding vessel.

Speaking of thus examining by transmitted light induces me to say that it may be employed for another purpose—as an aid in the development of under exposures. As has been often said by the editors, the “soot and whitewash” resulting from under exposure is caused by overdevelopment of the lights in the attempt to force the detail that is not in the shadows. This may be to a certain extent at least obviated, if when the lights are fairly out, the plate be held for a time close to the light. The silver already deposited on the lights will prevent further action, while the shadows, as yet unacted on by silver bromide, will be sufficiently affected to yield on further development some if not all of the desired deposit.

Since writing the above I see that at least one manufacturing firm in London has put on the market both a gas and an oil lantern, the light being filtered through a bichromate solution, and so we may hope that some of our makers will follow the good example. In the meantime, those who cannot procure an old wet collodion glass bath may easily make for themselves such a cell as I have just seen in the laboratory of one of my friends who had some time ago seen mine.

The cell consisted of two plates of glass about $8\frac{1}{2}$ x $6\frac{1}{2}$ set in a wooden frame something like a school slate, but with two grooves instead of one, with a space of about three-eighths between. Before inserting the glass the grooves were partly filled with a plastic mixture of a pitchy nature, and after insertion melted paraffin was run all round. He had made a fairly good looking job, and what was better, it proved to be quite water tight, making, according to his statement, development of a dozen exposures something to enjoy instead of something to dread.

Just one thing more. The walls of the dark room should not, as they too often are, be dark, nor need they be yellow as some propose, but of any color so long as it is light, and better still, white. If the light from the lamp be safe it cannot lose its safety no matter how or how much of it is reflected, and as the more of a safe light we have the more comfortably we can work, the walls cannot be too white.

Selecting a Camera.

THE giving directions for the choosing of a camera is not an easy task. The uses to which a camera is to be put may differ very much. One may want a camera to use only when going on a trip or to snap a few friends occasionally. For the beginner who knows nothing of photography, I would advise the purchase of a low-priced fixed focus camera. Simplicity and ease of manipulation are requisites in a camera for the beginner. A season's use would demonstrate if the camera fills all requirements or wherein it is lacking. An intelligent choice could then be made for future requirements.

Another may have in mind more serious work and have, perhaps, some little knowledge of the workings of a camera. If such is the case a camera should be chosen that has the attachments for all around work. The most important of these are: rising, falling and sliding front; double swing back; reversible back; extension bellows for telephoto work.

The uses of a rising and falling front are these: if we were about to take a picture of a building and would set up the camera, having it level, we would find upon locating the picture on the ground glass that there would be an expanse of foreground, while only about two-thirds of the lower part of the building would be visible. By elevating the rising front (carrying the lens) we cut off the uninteresting foreground and include all of the building on the ground glass. In photographing a very tall building, even with the use of the rising front, we still fail to locate all of the building on the ground glass. In such cases the swing back will be found useful. The whole camera is then set with front of the base board slightly elevated, until the entire building can be seen reflected on the ground glass. It will, however, be seen that the building has the appearance as if about to topple over—a thing one often sees in pictures made with cameras that do not have these attachments. The toppling-over effect is caused by the ground glass no longer being in a perpendicular position and is therefore not parallel to the walls of the building. With the swing back the ground glass is swung into a parallel line with the building and the difficulty overcome.

The horizontal sliding front is used when making upright pictures, in like manner as the rising and falling front.

A reversible back is useful when photographing a landscape. Sometimes a view is much improved if taken vertically. With a reversible back the change can be made almost instantly without unscrewing the camera from the tripod. If the change to a vertical picture is found to be undesirable, only a moment is required to again change back to a horizontal picture.

The 5 x 7 size is perhaps the best for general use. A picture of 5 x 7 inches is one of pleasing proportions. The first cost of plates and paper required for this size might influence some to decide for a smaller instrument. But how often the owner of a 4 x 5 camera wishes he had a larger one. The frequent use of 4 x 5 plates will lessen the pay-bills materially, while including all one wants.

The lens certainly is the most important in one's equipment. The best lens you can afford is none too good, for a fast lens permits the use of slower plates by working at a larger aperture. Thus one second exposure with a lens working at $f/8$ may be sufficient with a Cramer medium isochromatic plate, where one working at $f/11$ would need a much faster plate. Slow plates and fast lenses insure the best results, and exposure may be more elastic.

Some of the anastigmat lenses are convertible—that is, the front and back combinations are used in combination for regular work, and either the front or back combination can be used alone for long distance work.

Ampliscope lenses are separate lenses and by means of an adapter (which slips over the hood) are held in place in front of the regular lens. The following are some of the combinations possible. Wide angle, telephoto, copying and enlarging, portrait, etc.—H. F. Ruhl, in *The Spatula*.

Words From the Watch-Tower.

BY WATCHMAN.

W. BARRY, of Hull (England), and several of his East Anglican friends, recently started on a cycling and photographing tour through some of the picturesque scenery of Scotland; but instead of each carrying one of the popular "cycle cameras," most of them little more than toys, they "knocked down" a 12 x 10 camera, with its appurtenances, including in its battery of lenses one of a focal length of several feet, and distributed the parts amongst the members of the company.

In this way they will be able to do something like justice to the glorious scenery of the land that some of us love so well; and if they bring back not more than, say, a dozen negatives—films I need hardly say—they will be worth more, far more, than all the hundreds of thousands that may be made by snapping during the season.

* * *

Photographers are proverbially "Dreich i' the draw," difficult to be brought into association, even for their own benefit. A few weeks ago,

judging from the photographic journals, British professionals from "Land's End to John O'Groats," and including Ireland, were up in arms against what they characterized as "Bubbles and Smoke"; two firms, one soap the other cigarettes, having, as a means of advertising, offered for a certain number of coupons and a cash consideration, to supply copies of any photograph that might be sent to them. Page after page in number after number of several of the journals were filled with most rabid abuse of the firms and their method, and with demands for instant association into a body powerful enough to crush what they called "taking the bread out of the mouths of their wives and children."

One of the oldest and most influential of the journals took it up with a zeal and ability worthy of a better cause, or with a faith in photographers that I at least have long ago lost, and did enough and more than enough to have scored a great success with any less conservative class. Meetings were held, the widest publicity given, committees formed, and 4,000 copies of "an appeal" mailed so that every photographer in Great Britain and Ireland might be aroused to a realization of the supposed danger and the need for an organization strong enough to give it battle.

And what has been the result of four months of such heroic work to form an association that was by so many declared to be essential to the very existence of professional photography, and the annual subscription to which was only one dollar and twenty cents? The embryonic mountain developed into a mole-hill; the agitation began early in February and the list of members, according to *The British Journal of Photography* of June 7th, includes only 189 names.

* * *

Prejudice is hard to kill. W. E. Ward, in an interesting article on "The Business End of Photography" in a recent number of the *British Journal*, goes a little out of his way to give a kick at what he calls "the vagaries of the combined bath."

I know from a long experience, and it has been shown again and again in this and other magazines, that silver prints may be fixed and toned in a properly made and properly used combined bath with results as beautiful and as lasting as by any other method, and that with far less trouble and much more certainty.

* * * *

The German Photographic Convention meets this year in old Weimar, under the patronage of the Grand Duke of Saxony, from August 12th to 16th, and if the executive of our P. A. of A. meetings would deal as liberally with us as the German members are dealt with, I'll go ten to one that the tale of our attendance would require one figure more to tell it.

Here is what the payment of the annual dues, \$4.80, entitles them to: Four dinners and three suppers, one of the latter "without wine"; visits to places of interest in and about the ancient town; excursions to Berka and Jena, including visits to the glass works, and the optical works of Carl Zeiss; admission to the exhibition in the Baugewerkenschule Herderplatz, with the chance of winning, if they care to compete, an \$85 silver cup, a lot of silver medals, and a number of cameras and lenses. The Germans know how to make the money go far:

* * *

I. Thorne Baker, writing of the latent image in a recent issue of *The British Journal of Photography*, says: "If the plate (after exposure) be now examined, no visible change is evident, though, were the eye about a hundred times more sensitive than it is, the change would be discernible, *i. e.*, the portions affected by light would appear darker than the other parts." How does he know. Less confident observers, I amongst the number, have multiplied the power of the eye more than 100 times without recognizing a change.

* * *

As noticed in our May issue, an amateur photographer in Liverpool, England, sued the Kodak Limited branch of that city, and obtained judgment against them for \$25.00 for injuries sustained by him while igniting a charge of their flash light powder. The individual in question touched off the powder with a short match instead of with a long taper or something that would have kept his hand at a safe distance from the flame. The press of both countries declaimed against the injustice of the decision, and another trial was granted on the ground that the jury were not justified in their verdict. This resulted in a judgment in favor of the Kodak Limited, judge and jury deciding that there had been no negligence on their part. The decision is one of importance to all dealers in photographic materials, and Kodak Limited is to be commended for maintaining their position.



Second Chicago Salon (under the auspices of the Art Institute of Chicago and the Chicago Society of Amateur Photographers).—The Chicago Society of Amateur Photographers has decided to hold its Second Salon in the galleries of the Chicago Art Institute from October 1st to October 22d, 1901. The purpose of this Salon is to bring together the best examples of the photographic work of the year, rigidly to be selected by a competent jury of photographers and artists. Particulars may be had shortly by addressing the Executive Committee, Chicago Photographic Salon in the galleries of the Chicago Art Institute from October 1st to Committee on Publicity and Promotion.

Notes.

WHO INVENTED THE CAMERA OBSCURA?—The honor has generally been given to Giovanni Baptista della Porta, but on no better authority than his own, and although he was a clever scientist, as scientists went in the sixteenth century, it is now well known that he claimed much more than he was fairly entitled to.

The exact truth about fifteenth and sixteenth century happenings that could at best be interesting to but a few is difficult to get at, but in an interesting paper read before a recent meeting of the Royal Photographic Society, Major-General J. Waterhouse shows clearly that the camera obscura, with both reflecting and refracting lenses, had been known and employed long before Baptista Porta's time.

The paper, although the outcome of much research and of considerable interest, is too long for insertion, but it shows clearly enough that not to Porta, notwithstanding his claims, but probably to Daniello Barbaro, a Venetian, belongs the credit of applying the double convex lens—"an old man's spectacle glass convex on both sides"—to the camera obscura. He also seems to have been the first to notice the sharpening and improving of the image by the introduction of a stop or diaphragm.

It is also shown that previous to Barbaro's introduction of the convex lens, the camera image had been formed by a concave speculum, although who first thought of that is not so clear. Bacon speaks of concave mirrors having been employed in it, and curiously enough, on the introduction of the Daguerreotype and while it was being practiced in London by Claudet and Beard, the latter was able to so shorten the exposure by the employment of such a mirror, as to almost eclipse his rival. In the discussion that followed the reading of the paper, Mr. Thomas Bolas said: "In the present day the beauty of the mirror image is not realized. The image given by the lens cannot be compared with it for brilliancy."

THE HAND CAMERA AGAIN.—Although we have again and again spoken of the folly of attempting to acquire a knowledge of photography through the use of the hand camera, the would-be photographer is so hard to convince that we like to note the same opinion when we see it expressed by others. J. B. Johnston, in an excellent lecture on "The Hand Camera and its Capabilities," before the Edinburgh Society, said: "He who is desirous of learning photography thoroughly can make no greater mistake than to go in for a hand camera at the start. If photography is to be learned earnestly and thoroughly, it must be by means of the stand camera."

DIRECT POSITIVES.—M. Blanc, in a communication to the Photographic Society of France, says that he has produced an emulsion that on exposure and development gives results the opposite of that hitherto employed. In its unaltered state it is black, and on development the parts acted on by light become white, transparent or translucent, so that the camera image is positive by transmitted and negative by reflected light; and contact printing gives negatives from negatives, and *vice versa*. Photographers will be glad to hear more of this.

A WIDE RANGE OF TONES ON P. O. P.—According to M. Helaim, those who tone printing out silver paper with gold and ammonium sulphocyanide may, by the addition of varying proportions of potassium iodide, obtain tones or rather colors varying from the usual bluish black all the way to a fine carmine red. Suppose the formula for the bluish tone to be ammonium sulphocyanide 50 grains, gold chloride $2\frac{1}{2}$ grains, water 20 ounces, the addition of 15 grains of potassium iodide will, if the action is continued long enough, give the carmine red, while smaller quantities will produce varying degrees of violet reds and violets down to the bluish black.

WET FLASH-LIGHT POWDER.—M. Duboin, in the *Journal of the Chemical Society*, gives the following information regarding the combustion of magnesium and aluminum, which, if on experiment, which we are sorry we cannot at present make, should be found correct, will be of much value to those who practice flash-light photography. He says that while a pile of dry magnesium filings will only smoulder away slowly, if they are moistened with water, primed with a little dry magnesium and the priming ignited, they will burn with great brilliancy. Further, that coarsely powdered aluminum moistened with water and primed with a little dry magnesium will burn even more brilliantly than magnesium. It is surely well worth looking into.

AIR PURIFIER.—A new ingenious process to improve unhealthful room air at once has recently been invented by a French physician. Similar to the well-known seidlitz powder, he enclosed a substance in each of two different papers, one of which contains white barium peroxide, which is saturated with perfume in a concentrated form. This is first placed in tinfoil or oil paper. The other blue paper contains powdered potassium permanganate in the correct proportion, so that on mixing the two bodies together in a solution, oxygen is set free, which spreads in the air and improves the bad air in the room. If the powder is to be used for disinfecting purposes, the perfume may, of course, be left out. For dark rooms and wherever an opening of the window is not desirable or is impracticable, this new air purifier will doubtless prove of great value.

IN addition to the list of winners in the Voightlaender & Sons competition which we published in last month's issue, we are permitted through the kindness of the company to reproduce some of the pictures this month. While the pictures submitted did not rank high in pictorial merit, they represented the highest order of technical excellence, which was the main point to be considered. The results were highly creditable to the quality of the Collinear lens and so satisfactory to the Voightlaender Co. that the competition will be repeated.

RUST REMOVER.—To clean rusty iron the following simple process may be employed: The rusty piece, no matter how far the rust has progressed, is connected with a piece of zinc and then introduced into water containing a little sulphuric acid. After the articles have been lying in the liquid for several days or a week, the rust will have completely disappeared. The length of time will depend upon how deep the rust has penetrated. A little sulphuric acid may be added from time to time to reinforce the solution, but the chief point is that the zinc always has a good electrical contact with the iron. To insure this an iron wire may be firmly wound around the iron object and connected with the zinc. The method presents the great advantage that the iron is not attacked in the least, as long as the zinc is kept in good electric contact with it. When the articles thus treated are taken from the liquid they assume a dark gray or black color, and are then washed off and oiled.

CHEMICALLY COLORED SLIDES.—A sky may be colored blue by immersing the slide in a 2 per cent. solution of yellow cyanide of potassium. To obtain a natural effect, hold the slide vertically in the solution with the sky part downward, and then gently lower, till the solution reaches the horizon line. Now, raise it again, taking care to give more time to the upper portion of the sky than to that which is nearer the horizon. If well done, this will give a very realistic appearance, the blue, from an intense hue overhead, gradually fading to almost white on the horizon. Care should be taken not to make a harsh line here, and, as the bath acts very strongly, and the color intensifies when the positive is dry, it is advisable to take it out of the baths as soon as the faintest tinge of blue appears (a few experiments with waters will give the necessary expertness). Then wash the plate thoroughly, dip into a 2 per cent. solution of sulphate of iron, rinse finally, and dry. Green is obtained by dipping the above result in bichromate of potash solution; violet by dipping it in oxalate of potash; red by dipping it in nitrate of uranium. To obtain several of these colors on the same plate, confining each to certain localities, it is necessary, before subjecting those localities to the actions

of the particular solution, that the rest of the positive should be protected with a coating of varnish, which may afterwards be removed with methylated spirits. Or the solutions may be locally applied with a brush. But to obtain any of the three colors, green, violet, or red, it is necessary, first, to tone the slide blue.

QUICK DEVELOPMENT, with strong solutions, means a lack of gradation, a forcing up of the high lights before the developer has time to act on the less exposed parts. Good results can only be obtained by slowly coaxing out the detail, so that all parts of the image come up fairly together. A developer too warm, or containing too much alkali (carbonate of sodium or potassium), will cause flat, foggy negatives. A developer too cold is retarded in its action, and causes thin negatives.

THE USE OF CHROME GLUE AS GLASS CEMENT.—Chrome glue, consisting of 5 to 10 per cent. of gelatine, to which about one part of bichromate of potassium in solution is added, possesses the property of becoming insoluble by water through the action of sunlight, a property which is advantageously utilized in photography. Professor Schweizer recently coated both fractures of a glass as uniformly as possible with the freshly prepared solution, pressed them together, and fixed them in this position with a cord. The glass was then exposed to sunlight and was found to be firmly united after a few hours. Even hot water did not dissolve the oxidized chrome glue, and the fracture was scarcely noticeable. Valuable articles of glass, which would be disfigured by a thick cement joint, can be very nicely repaired in this manner.

A NEW method for measuring the speed of shutters has been devised by Herr von Behrn, of the Physical Institute at Berlin. This introduction depends upon the use of the chemical harmonicon in connection with an acetylene flame. This flame is focused with a camera; a plate is inserted, and the camera is swung around in a horizontal direction while an exposure is made. In this way, the plate registers a succession of images of the flame with spaces intervening; the number of images increasing with the pitch of the note. To test the shutter under consideration, an exposure is made whilst the camera is moving, and the number of images of the flame gives the length of time that the lens has been open, providing that the musical value of the note is determined. Supposing the note corresponds with 200 images per second, and after exposure only four images are seen, then the shutter has been working at 1-50th of a second. Another plan is to attach a small convex mirror to a large tuning fork and photograph the light as reflected from the mirror. The methods suggested by Herr von Behrn are undoubtedly accurate in their results, and as the apparatus can

be readily fitted up in the workshop, we recommend the suggestion to the notice of manufacturers.

DEVELOPING HINTS.—Cadett & Neal, the makers of the celebrated spectrum plate, have issued a leaflet giving hints on development that may be useful during this or other hot spells. They say: "Warm or cool your developer to 65° Fahrenheit, as the temperature may necessitate. Pour the developer over the plate in one sweep along the edge. If poured in the middle of the plate towards one side the developer will form a line of developing bubbles on its return flow, and these cannot be got rid of without rubbing the film. There is also danger of these bubbles forming when a small quantity of developer relatively to the plate is used, as the film is apt to become partly uncovered for a few seconds, and bubbles are formed on the film when the developer flows over afterwards. Do not wet the film before development. Use plenty of developer, and use what we recommend. To dry quickly, our plates being very heavily coated, after washing soak in methylated spirit sufficient to cover the plate for about twenty minutes, then pour off the spirit, remove the surplus moisture from both sides of the plate with some soft material, and leave for a few minutes to thoroughly dry. In case the plates should be found giving surface green fog, in using ammonia, this can easily be removed by placing the negative, after fixing, in a fresh solution of hyposulphite of soda of the same strength as the fixing bath, to which a few drops of saturated solution of ferridcyanide of potassium have been added, so as to make the hypo-solution of a light lemon yellow color. Care must be taken, however, not to add too much of the ferridcyanide solution so as to affect the density of the negative. *Hot Weather Troubles.*—*Caution.*—In storing plates between exposure and development care should be taken to place them film to film, and not glass side to film, as during manipulation the glass side of a plate is handled many times with fingers contaminated with developing solutions, perspiration, etc., which, coming in contact with the film of the next plate, cause dirty stains to appear in the negative during development."

HINTS ON PORTRAITURE.—Portraiture, long considered beyond the reach of the amateur without a suitable studio in the sense of the usual "glass house," is, with the more advanced, becoming more popular than landscape, it being found that those who have a well-lighted ordinary room and know how to use it may do as good work as can be done in the most perfectly equipped studio. To such the following hints, from a lecture by Harold Baker, before the London Camera Club, may be of use. "When dealing with standing figures," remarked the lecturer, "proper use

should be made of the swing back. If a portion—say the foot—is markedly out of focus, this will tend to make the part look larger than it really is. The height of the camera from the ground should be adjusted to the height of the sitter's head. If the lens is pointed down on the sitter, the upper part of the head is exaggerated in size, and, consequently, out of due proportion; the figure seems tilted forward, etc. However, as no hard-and-fast rule can be laid down, each case must be treated on its merits. The treatment of the hands requires considerable care and attention, the best way to show them being edgeways, rather than the back or palm, towards the lens, as photographs are often seen where these seem out of proportion, spoiling the effect of what otherwise may be a good portrait." As to the development of portrait negatives, Mr. Baker emphasized strongly the importance of a fully-exposed negative, with ample gradation, but not tending to strong contrasts; it should be of the kind known as "soft" rather than "plucky." In the case of retouching, the less done the better—in fact, only enough to correct defects or accidents, and no attempt made to "put in effects" by its means. We may add that serious portraiture should not be attempted with a lens the equivalent focus of which is less than twice the length of the longest way of the plate employed.

Films versus Plates.

BY R. W. CRIGHTON.

"GIVE a dog a bad name and you may as well hang him" is true of films as well as of dogs, and the prejudice induced by the faults of the earlier films is hard to kill, many of even the most experienced photographers fighting shy of them even after they have become in all essential qualities as perfect as the plates of even our best makers.

That the professional photographer, whose filled plate holders are carried only from the dark room to the studio, uses plates rather than films is perhaps not matter for surprise, although, when storage of thousands of negatives is considered the latter has very decidedly the advantage; but that the amateur, or he who goes to the field with anything larger than quarter plate should elect to carry pounds rather than ounces, and run the risk of breakage besides, passes comprehension. The beginner who takes to photography seriously looks for help to those whose experience makes them best able to give it, and they, having been prejudiced against films through their earlier faults set their pupils against them at the start.

The earlier films were made with unripe celluloid, and so did not keep

well. Under certain conditions they developed electricity sufficient to fog the sensitive surface, and as the packets were too thin to stand on their edges they were laid flat, and so liable to markings from the pressure of any small and heavy body that might be laid on them, the pressure being local instead of distributed all over in the case of the plates. To this latter they are still liable, but being better understood it occurs less frequently as it is easy to guard against it.

It may be taken for granted now that film makers—most of them, at least—know how to guard against the faults of the earlier films, and that those of at least the popular makers are as perfect as plates from the same factory; and consequently when failures occur the cause should be sought, not in the film, but in the method of its manipulation. Their keeping qualities, too, if not in the nature of things, as permanent as glass, are surely sufficiently so for all practical purposes, as the conditions are rare in which it will be necessary to store them for longer than four years, that being the age of a packet of Carbutt's orthochromatic, one of which I exposed ten days ago and developed to-day, and it has yielded a negative as perfect in photographic technique as the most fastidious desire.

But while the best films are quite equal in quality to the best plates it may be that they require just a little more care in the development. In the first place, in judging of density, they seem to require to be made stronger, that is, they appear to lose more in the fixing than do plates, and if removed from the developer as plates may be removed; that is, while the detail of the subject is more or less easily seen, the fixed negative will require intensification, and the result of my experience is that an intensified negative never gives a print equal to one in which sufficient density has been got by what may be called "the first intention."

Then, although I belong to the school old enough to prefer "pyro-ammonia" for ordinary development, ammonia has always seemed to have an injurious effect on the celluloid, indicating the use of a less caustic alkali, and so where pyro is employed it should be in conjunction with sodium carbonate. But even with four times its weight of sodium sulphite pyro has more or less of a tendency to stain the film and make it more difficult to judge density, so that I am inclined to recommend the ordinary "metol-hydro" formula, or, what I like better and most generally employ, ortol.

While agreeing with the editors that "formulæ is indicative rather than imperative," I also know that there are many who, having no confidence in their own ability to devise one for themselves, think no article complete that does not give it down to a grain or minim, and on their account give the following as representing a solution that is always and altogether satisfactory.

Ortol	30 grains.
Potass metabisulphite.....	15 "
Sodium carbonate	100 "
" sulphite	150 "
Water	10 ounces.

As I endeavor to secure correct exposure under all conditions, using for that purpose a Wynne's Exposure Meter, and consequently never need to modify or "tinker" with the developer, the "one solution" answers perfectly and is more convenient than separate solutions.

I should have said at first that what I am writing applies especially to cut films. With the roll variety I have had little experience.

As on the first contact with the developer films are more apt than plates to produce air bubbles, the solution should be poured, not on the centre, but by a sweep along one edge so that it shall flow in an unbroken stream across the surface, carrying the air with it in a manner easier to do than to describe, and as even then some air bubbles may be formed, it is well to gently brush both front and back with the fingers.

Then, care must be taken in rocking the tray that the film, in consequence of its lightness, does not partially rise to the surface, causing streaks or uneven development; indeed, a shaking rather than rocking motion will give the necessary movement to the water and keep the films flat in the bottom.

Some makers recommend the addition of a little glycerine to the last washing water, but I have never found that necessary. I never develop more than a dozen $8\frac{1}{2} \times 6\frac{1}{2}$ films at a time, and after washing, which includes ten changes of water, two trays being employed and the films lifted one by one from tray to tray, and each allowed to drain for a few seconds. I fasten them by the four corners, using the Eastman dark-room pins, to boards, face out of, course, and they dry and remain quite flat. The pins, however, make a burr on the back of the film negative which, unless shaved off, will be apt to scratch the film side when packed together, a trouble that may be avoided by attaching them to plates of glass of the same size by ordinary clips.

The only disadvantage of the modern films is that they or some of them cost a little more than plates, and if that induces their users to give more consideration to their subjects and exposures the disadvantage would prove a blessing, while the advantages are many. Lightness, non-liability to breakage, ease of storage, and, perhaps greatest of all, adaptability for printing from both sides.

I may add that there are on the market two varieties of cut films, one smooth or polished, the other matt on the back, and that I prefer the latter. I have never yet made a negative that might not be improved by some judicious working with lead, stump or pencil, or in many cases both, on the back, and the matt celluloid "takes" the lead perfectly.

The Restoration of Star Photographic Negatives.

ALL astronomical photographers realize the importance of washing their plates thoroughly, but in spite of this fact they are prone to fade. Negatives, of course, are carefully preserved as a record, and the plates lose their value if any of the star images have faded. Sir William Crookes, editor of *The Chemical News*, was called in to restore some missing star images on a valuable series of plates taken nine years before. The process which he used was his own invention, and he described it as follows:

1. Soak the plate in distilled water for three hours.
2. Prepare, in advance, two solutions, A and B.

SOLUTION A.

Pyrogallic acid	1 ounce.
Sodium metabisulphite	1 ounce.
Water	80 ounces.

SOLUTION B.

Sodium carbonate (crystals)	12 ounces.
Sodium sulphite	4 ounces.
Water	80 ounces.

Mix equal parts of A and B, and allow the plate to soak in the mixture for ten minutes or a quarter of an hour, in the dark. Wash well.

3. Transfer the washed plate to a solution of 3 ounces of sodium hyposulphite in 20 of water. Allow it to remain for half an hour, and then wash the plate in running water for three hours.

4. Prepare a "clearing" solution according to the following formula:

Alum	1 ounce.
Citric acid	1 ounce.
Ferrous sulphate	3 ounces.
Water	20 ounces.

Allow the plate to soak in this for ten minutes and then remove and wash in running water for six hours.

5. Prepare, in advance, two solutions, C and D.

SOLUTION C.

Ammonium sulphocyanide	100 grains.
Water	10 ounces.

SOLUTION D.

Gold chloride	15 grains.
Water	15 ounces.

For use take 1 ounce of each, and add 8 ounces of water. Soak the plate in this mixture for ten minutes, and at the end of that time remove and wash it in running water for half an hour. Transfer to a dish of distilled water, where it may remain for an hour. Finally drain on blotting paper and allow to dry.

The separate solutions A, B, C, D, will keep for an indefinite time, and the same may be said of the clearing solution, if kept tightly corked. But when mixed together they will not keep, so fresh mixtures should be made each time.

I have given you the full process adopted on the plates you sent me, but I think some of them may be omitted with no disadvantage. For example, I should like to try if the soaking in hyposulphite may be dispensed with. I think it can, but I only tried leaving it out on the plates you sent that had not faded.

I always found the great secret of preventing images from fading out was to wash them very well in running water. The clearing solution allows the time of washing to be a little shortened, but not much.

The sulphocyanide and gold solution has the property of precipitating gold on the image and rendering it of a blacker color and diminishing the chance of fading. I should think you would find it useful always to use the clearing solution in your usual process.

Light Screens.

A CURSORY examination of most opticians' catalogues which are now issued will at once show that almost every lens is advertised to cover with a small stop a much larger plate than it will with its full aperture; in fact, this is advanced as one of the great advantages of the newer forms of lenses which are now constructed. That this property is by no means confined to these new lenses is, of course, a well-known fact, but they have at least the advantage of covering a larger plate at a larger aperture than the old rapid rectilinear.

Whilst the word "covering" is used most generally, we think it would be far better to find some other term, which should express briefly what is meant, which is, of course, that the lens will define sharply over a given sized plate.

To the man who uses many different-sized cameras a lens of this character, which can be used indiscriminately as a narrow, a medium, and a wide-angle lens at will, is, of course, a great convenience, but it is an open question how many times a lens is thus used. The amateur worker is usually content with one camera; if he has two, he is frequently extravagant enough to have practically two sets of lenses. The professional, on the other hand, may thus use a lens because a complete battery of lenses for each camera means a locking up of capital which, possibly, the advantage in results does not warrant.

Let us assume, however, that a lens of this character is used, and we

will take a specific instance. A six-inch anastigmat was purchased for a quarter-plate hand camera, and this was advertised to "cover" that sized plate with full aperture, a 5×4 with $f/11$, and a half-plate with $f/16$, statements which were sufficiently borne out on testing to need no special comment; but it was found that, when the lens was raised above the centre of the plate by three-quarters of an inch, there was considerable falling off of definition in the margins of the lower half of the plate, necessitating the insertion of a stop. This has been mentioned incidentally, as it is not the particular point to which attention is to be directed.

On placing the lens on a large camera, and stopping down to $f/45$, the circle of sharp definition was found to have a diameter of 9.5 inches, that is to say, the area of the circle of light was approximately 71 inches, and, as the lens was to be used on a quarter-plate, or on a circle the area of which would be approximately 22 inches, it is obvious that there is a great deal of light which is not only useless, but may be prejudicial, for, although the interior of the camera bellows is always black, the black is by no means that of lampblack, which, under the most favorable conditions, will reflect from 3.5 to 6 per cent. of the incident white light. It may be said, of course, that the corrugations of the bellows will stop the greater part of the light, and, whilst this is true, it is only necessary to project a strong parallel beam of light on to one side of the bellows to see how much light is visually reflected; and, as the dry plate is far more sensitive to faint lights than the retina, one can readily understand how this superfluous light may cause a general superficial fog. It may, of course, be advanced that this general fog can only be of such a slight nature as to in no wise affect the image, or, in fact, that it may be actually advantageous as assisting to overcome the initial inertia of the silver haloid, and thus give a more fully exposed negative, just as it is said an unbacked plate does. For those who believe in this statement their obvious course is to use unbacked plates and their cameras as now built, or, to carry the argument to its logical conclusion, to actually line their cameras with a stronger reflective material than that at present employed.

The destruction of this reflection by either the absorption of the whole of the light, which is an extremely difficult thing to do, or its prevention by the exclusion of the superfluous light, is possibly worth the attention of those who like clean negatives which only bear the image as formed by the lens. Whilst all our plates are rectangular, the light transmitted by the lens is always a circle, so that it would seem but reasonable to suggest that the use of rectangular "light screens" should be adopted. The idea of such screens is by no means new, it having been broached at least by Furnell (*The British Journal of Photography* for 1881, p. 322), who suggested an arrangement of this kind within the camera.

It may possibly be permissible to interpolate here, as a sarcastic commentary upon the article, "About Photographic Patents," p. 386, of June 22, that a similar arrangement was patented in 1893 (April 12, No. 7481). twelve years later.

The exact position of these light screens as regards the lens is of no moment, that is to say, they may be placed in front of or behind the lens.

the latter being more convenient if the bellows rise when the lens is raised, otherwise before the lens should be chosen. It is of considerable importance, however, to determine their position if they have a fixed aperture, or to determine their aperture if they have a fixed position. When the light screen is placed inside the camera, which can easily be effected by cutting it of stout celluloid, ebonite, or millboard, and wedging it in the folds of the bellows, its aperture may be determined by drawing a straight line equal to the diagonal of the plate and joining the two ends with those of a straight line equal to the diameter of the diaphragm, thus forming a truncated cone, and one has only to determine at what distance from the diaphragm the light screen is to be placed to have at once the side of a square which shall effectively cut off most of the superfluous light. As, however, we never use square plates, the sides of the light-screen aperture should bear the same ratio as the sides of the plate, and to find this out a very simple procedure is required.

Let us assume that we are to use a lens of 6 inches focus and full aperture of $f/6$ (in this case, for convenience, the actual, and not the effective, aperture is taken; to be strictly correct, the latter should be calculated), and the plate is to be $4\frac{1}{4} \times 3\frac{1}{4}$, and the light screen is to be fixed 2 inches from the diaphragm; then, if we call the light screen l and the plate p —

$$l : p \text{ as } 2 : 6.$$

Therefore for the longer side we have—

$$\frac{2 \times 4\frac{1}{4}}{6} = 1\frac{5}{6} \text{ for the longer side,}$$

and

$$\frac{2 \times 3\frac{1}{4}}{6} = 1\frac{1}{3} \text{ for the shorter side.}$$

Now, the sides of a rectangle inscribed in a circle of 1 inch diameter, that of the diaphragm, will be as $\frac{1}{\sqrt{2}}$, $\frac{1}{\sqrt{2}}$, so that for the final size of the light screen we get for the longer side—

$$1\frac{5}{6} + \frac{1}{\sqrt{2}} = 1\frac{9}{8} \text{ inches (} = 2 \text{ inches approx.),}$$

and for the shorter—

$$1\frac{1}{3} + \frac{1}{\sqrt{2}} = 1\frac{5}{6} \text{ inches (} = 1\frac{1}{2} \text{ inches approx.).}$$

Actually a light screen should be calculated for each diaphragm, but one will generally be found an improvement. Whatever material be used, its anterior surface—that is, the one facing the lens—should be covered with black velvet, and, if matt celluloid be used for this, there is not the slightest difficulty in cementing it down by using sheet celluloid dissolved in amyl acetate, or even moistening the surface with the acetate or acetone and pressing into contact. If wooden frames be used, a rabbet can be fitted, and it can then be used for carrying an isochromatic screen.—*The British Journal of Photography*.

IN our last month's notice of the E. W. N. Backing Compound we neglected to say that the preparation is made and sold by Edward W. Newcomb, Bible House, New York City. A 50c. cake of the composition will last a long time, and a trial is all that is necessary to insure its constant use.

The Reflex--A Camera for High Speed Work.

The Reflex Camera Co., Yonkers, N. Y., inform us that they are having an "unprecedented run of business." This certainly speaks well for the Reflex hand camera, and proves that experienced photographers find the focal plane shutter in conjunction with a full sized finder the only instrument that will satisfactorily depict rapidly moving objects. We reproduce a few examples of rapid work made with this camera and the Voightlaender collinear lens. A picture of the horses on the speedway was the winner in the Voightlaender & Sons' late competition for speed work. The horses were travelling at an estimated speed of 2:20 when the picture was made, yet in the original photograph the horses and the lines of the vehicle are as sharp as if taken at a standstill.

The great advantage of the Reflex camera is that it shows on a ground glass placed in top of camera a full-size picture, right side up, projected by the same lens which is used to make the impression on the plate or film. As this ground glass is accurately ruled in squares, it forms a most satisfactory level. The result is obtained by a mirror which intercepts all the rays passed by the lens and focuses them on the ground glass in top of camera. This does away with the old necessity of judging distances and focusing by scale. In making the exposure, a pressure on the shutter release closes the mirror against the ground glass and at the same time releases the focal plane shutter. You can focus and see your object, full size, with the plate in position, slide drawn, shutter set and lens open until the moment of exposure.

The Reflex Camera Co. desire to say that they are now prepared to fit any hand camera from 4 x 5 to 10 x 12 with their focal plane shutter. This interchanges with the regular reversing back of the camera, and while the advantage of the Reflex full size finder is absent, yet any one who possesses a good lens with an accurate focusing scale can do as good work by using a sighting finder fixed on the top of the camera. For the coming international yacht races such an outfit becomes an absolute necessity when working within the closest possible range.

The C. P. Goerz Optical Works just completed its 100,000th double anastigmat lens, which happened to be a No. 9 series 3 of 24 inches focus. This event was adequately remembered by a celebration in the factory. It may certainly be considered as a magnificent record to have made and marketed inside of eight years 100,000 anastigmat lenses, and undoubtedly is one of the convincing proofs of the high perfection of the Goerz produce.

Amateur Sculpture.

HOW ORNAMENTS FOR THE HOME CAN BE MADE IF THE BEGINNER HAS A LITTLE INGENUITY AND PATIENCE—CAST OF THE BABY'S HAND.

Few people realize the pleasure and instruction that can be gained from making plaster casts. It is inexpensive, and the utensils required are found in every household. A cast of the baby's chubby hand or foot or, in fact, a cast of any kind is not only a delight, but an ornament. The great secret in making successful plaster casts lies in not getting excited. Care should be used when getting the plaster that it be plaster of paris and that it be bought from some shop where it is sure to be fresh, as that which is obtained from a drug store is apt to be stale and will not set properly.

A few quarts of plaster should be sufficient for a first attempt. A bucket of water, a tin basin, a tin spoon, some oil or soapsuds and, if possible, some common modeling clay and a bottle of ink are all the materials required. A mold is first taken of the object, and when this is filled it gives the cast. There are two kinds of casts—those where only part of the object is shown, the other part resting on a tile or plaque, and those that show the whole object or are in the "round." The hand is about as simple an object as can be found and is more interesting than most things. As the hand on the tile is the easiest, it would be well to start with that. Place a sheet of paper on a table and then grease the hand thoroughly with the oil or thick soapsuds to prevent the plaster from sticking to the skin when removing the mold.

When the hand is placed in the position wanted, fill the spaces underneath it, where it does not touch the table, with clay, or if clay cannot be obtained use putty. It is convenient to make a small wall of clay around the object to prevent the plaster from running, but it is not necessary. Put about a quart of cold water in the basin and pour the plaster into it, stir quietly and keep the spoon under water to avoid making bubbles. Use enough plaster to make it the consistency of batter. If a little salt is added or hot water instead of cold is used, the plaster will harden or set more quickly. A small quantity of ink or any coloring matter will make it easier to

distinguish the mold from the cast and will also make it more brittle or rotten and easier to separate the two. Pour the plaster over the hand, taking care that there are no bubbles, until it is about half an inch thick. It will require a few minutes for it to set and is ready to lift off when it can be scratched with a knife. It is easier to turn the hand and mold up and lift the hand out than to take the mold off the hand. If any plaster has run under the fingers, cut it away with a dull knife.

Should the hand not come out easily, working the fingers separately will often loosen them. The mold should be allowed to dry a few hours and then be filled with white plaster, the same consistency as was used for the mold. A wall of clay about an inch high will have to be built around the edge of the mold, which when filled gives the tile for the cast to rest on. Let the whole dry and then clip the mold away with a knife. The mold, being of a different color, can be readily distinguished from the cast.

In making the mold for a cast in the round, after the hand has been oiled, sink it to about half an inch in a bed of plaster, leaving about half an inch for thickness. Make the rim smooth and, when hardened, oil. Now cover the upper half with plaster. When set, this should knock apart easily and the hand be lifted out.

Another way, but a more difficult one, after putting the hand half way in the plaster and before this has dried, is to put a thin strong string around all the edges of the fingers, letting the ends come out at the wrists. When the hand is entirely covered with plaster and before it has hardened, pull the string out, which cuts it in two. The manner of filling both these kinds of molds is the same. Oil and tie the two halves tightly together and fill with plaster, let harden and lift the molds off.

Only one cast can be made from molds like these. At shops where plaster casts are made and sold and a number of the same casts are wanted a gelatin mold is made. Being elastic, it is easily pulled off without harm to the cast and still

retains its shape and can be filled any number of times. The yellow or ivory finish that is given to many casts is obtained by using white shellac, which can be had already mixed from a paintshop. By adding oil paint any desired color can be obtained. Rubbing with a cloth gives a high polish. A bronze finish can be given by coating with a mixture of white wax dissolved in turpentine, to

which bronze or green paint has been added.

A fine set of casts, which would interest children and could be used in the schoolroom, could be easily made, such as fruit or vegetable forms, apples, bananas, potatoes and corn, or simple animal forms, such as frogs, fish, etc.; also models that one has made and wishes to preserve.

Our Table.

Books for review and apparatus and material for examination and report should be sent to Dr. John Nicol, Tioga Centre, N. Y., from June 10th to September 20th to Point O' Woods, Long Island, N. Y.

EDWARD W. NEWCOMB sends a booklet telling about several good things that he makes for the amateur or professional who has not the time or the inclination to make them for themselves. They include a backing for plates; a "spotting medium," an "everlasting developer," blue paper, powder, etc., but, as our readers know, we never recommend anything that we have not put to the test of practical work, and not having tried any of these we cannot say anything more about them.

* * *

From John Carbutt comes a sample of his new Polychromatic plate, the introduction of which deserves more notice than can be given in this column. They come too late for special notice in this number, but we shall tell all that we know or can find out about them in our next. In the meantime, something about polychromatism in general will be found on another page.

* * *

THE PHOTO-MINIATURE.—Pinhole, or as the author suggests, "needlehole or rectigraphic," with an alternative "lenseless photography," is dealt with in the June number of this always interesting little magazine, and dealt with in a way that, if we are not mistaken, will create an enthusiasm hitherto undreamt of for that phase of work. It is the most complete monogram on the subject that has yet appeared, and the instruction as to both the construction and the use of the necessary outfit is so simple that the photographer who cannot at the cost of a few cents make really excellent photographs, or even good pictures, should turn his attention to some other hobby.

But while we have nothing but praise for the work we must find fault with the editor's introduction, in which he commits the time-honored mistake of crediting Giovanni Battista della Porta with the invention of the camera obscura, an instrument which, as will be seen in our current number, was invented and used before he was born.

* * *

THE STORY OF SARAH, by Miss Foster. New York: Brentano.—We do not generally notice literature of this kind, but as the busy photographer more perhaps than those of some other trades and professions, needs relaxation and change of occupation, we like to do so when we come across a book of such pre-eminent interest as this, the more especially as some of the most exciting incidents are supposed to have occurred amongst the beautiful dunes which surround our summer home at Point O' Woods.

"The Story of Sarah" is in several respects a remarkable book, written as it was by a comparatively young girl, and combining in an extremely interesting, frequently exciting, and withal thoroughly natural plot, a powerful character study, including representatives so diverse as the denizens of the deep, the old and nearly obsolete Dutch settlers and various types of the modern American; a descriptive power—the ability to bring before the eye the localities in which the incidents occur, that reminds us forcibly of Scott; and a local coloring as realistic as it is true and distinctive.

While the fact that a book runs into the tens of thousands is not always, or indeed often, a proof of its merit, "The

"Story of Sarah" had nothing but merit to help it, but that was sufficient to run it into its tenth thousand within less than three months after its publication, and we can honestly say that we have never read a story that better deserved its popularity.

* * *

MESSRS. BURKE & JAMES, 111 Wabash avenue, Chicago, Ill., have issued a new and up-to-date catalogue of 224 pages, listing and fully describing all the modern makes of cameras, camera accessories and photographic supplies. The catalogue is very complete and well arranged. Besides fully describing the "Ideal" and "Ingento" specialties of their own manufacture, care has been taken to make the catalogue representative of all the latest inventions of other makers, and in the catalogue will be found many things that the average photographer has never heard of. All users of photographic materials should have a copy.

Tabloid Developers.

THE Nepera Chemical Co., originators of the well-known and much-imitated M. Q. developer, are now furnishing Lotol a newly compounded developer for their Velox paper in tablet form. Photographic chemicals in tablet form have been very popular in Great Britain for years, and we have often wondered why some manufacturer in this country did not see the advantage and convenience in putting up their preparations in this form. We are glad to see that the idea has at last been carried out and by such a reliable concern as the Nepera Chemical Co. Besides the convenience and accuracy of using the chemicals in tablet form, another important feature to the amateur has been attained, viz., reducing the price while maintaining the quality. The price of a box of Lotol containing 20 tablets of reducer and 20 tablets of accelerator is 40 cents, and one each of the tablets makes one ounce of developer for regular Velox, two ounces for special or three ounces for plates, at an average cost of one cent per ounce. Complaints as to Velox paper having been traced to the use of so-called M. Q. tubes other than those put up by the Nepera Co., and a desire on their part to reduce the price is given by them as the reason for the new departure. Considering their accuracy, convenience and portability the Lotol tablets should have a larger sale than even the M. Q. tubes. The Nepera Co.

say: "You can mix up just as much, or as little developer as you want with unerring accuracy by simply counting the tablets, for they are mechanically exact as to the quantity in each. We have the strongest incentive to constant care and watchfulness in preparing our chemicals for the market. If our paper is developed with pure developer and fixed with pure acid hypo good prints should be made every time and that means increased popularity for Velox. No matter how good the paper may be, impure or inferior developer and fixing bath will injure, if they do not actually spoil, the prints, and the paper gets the blame. Hence our deep seated antipathy to make-shift developers. We do not mean by this to condemn all developers but ours; you can get just as good chemicals—if you go to the right dealers—but you cannot buy any better ones, and we now offer you the very best that can be had at the very lowest cost and in the most convenient form it is possible to devise. We have now in preparation Ortol Tablets, Bromide Tablets, Chloride of Gold Tablets, and many others; all of which will by degrees be placed in the hands of our regular dealers. In order to introduce the Lotol tablets and to enable Velox users to try them without buying the full quantity at the outset, we also pack the developer in small paper boxes containing two tablets of each kind and selling at five cents each."

Old House Changes Hands.

NEW YORK, July 1, 1901.

Gentlemen—It gives us great pleasure to inform you that we have purchased the entire stock and business of the Dickinson Co. We shall in the future carry a large and varied stock of photographic supplies to meet the demands of all who are interested in this beautiful and scientific subject.

Our factory in Arlington has been equipped with the most modern machinery and mechanical appliances for the manufacture of photographic goods, including X-ray and electrical instruments, thus enabling us to sell our goods direct from the manufacturer to the customers. We trust that you will favor us with your patronage, at the same time assuring you prompt and courteous attention.

Yours very truly,

HAVERS & FAGAN.

83 Nassau Street.

Our Portfolio.

Communications for the editors, pictures for criticism (only one print at a time) and apparatus and material for examination, should be sent to Dr. John Nicol, Tioga Centre, N. Y., from June 10th to September 20th to Point O' Woods, Long Island, N. Y.

1271. W. G. WARNICK.—"Wook-sack Falls." To photograph a fall and its dark surroundings is one of the difficult problems in photography, but it can be done, although not as you have attempted it, nor was the subject as you had selected it worth the attempt. To nearly fill the space with a stream, or, as in this case, two streams, could never make an interesting picture. When you try again, select a much more distant point of view, making the falls small and their surroundings large, give a full, much fuller, exposure than this has got and develop with a solution weak in reducer till the detail is out, and then intensify. Very dark woods in a hazy day cannot be properly photographed by an exposure of one second with an aperture of U. S. 32, which is $f/22$. Judging from your result, the exposure should have been about three times as long.

1272. H. J. HUFF.—"Home, Sweet Home," a typical Indian tepee of the Owyhee reservation, belonging to the record of fact rather than to the pictorial phase of photography. Of it the author says: "The tepee is made of poles and grass, and the mats at the top are of rushes, and the door of any kind of old cloth. The poles behind are the winter firewood, reared up in this way to keep them from the snow and rain.

The dignity of the tepee would have been enhanced by making it an upright instead of a horizontal, and a little more development would have improved the technique, while the clouds, or rather the sky, from its uniformity of tone, gives a gloomy aspect to the view. The sky looks as if printed in, and if so, it should have been made lighter towards the horizon and the tepee and its surroundings not quite so darkly printed.

It is, however, an interesting photograph and would have been still more so with the suggested alterations. See page 349.

1273. C. F. RACKE.—"Sunlight and Shadow" is properly named, as there is too much of both without what should go between. It is a good subject from a well selected point of view, but the ex-

posure has been so much too short that development has resulted in only the two ends of the scale without any of the half-tints or medium degrees of gradation. Water, the road across the bridge, and the sky are represented by white paper, while bridge, the wall that supports it, as well as trees and their trunks, are all simply alike dark. You cannot get anything like true values without sufficient exposure, which, in this case, means either a longer time or a lens working at a larger aperture.

1274. SIR VERE GOULD.—"The Little Housewife." The adjective here is a term of endearment applied to one who has but recently acquired the honorable title of housewife, yet long enough for the stocking that she sits darning to get somewhat the worse for the wear.

Sitting close to a brilliantly lighted window, she is broadly but effectively lighted and admirably posed, but we wish the curtain immediately behind had not been there as it tends to attract attention from the beautiful figure. It is more than fairly successful, and it would have been still more so had she been darning a sock instead of a stocking. The stocking may be her own, the sock would have suggested a good deal more. A seemingly little thing sometimes makes a big difference. See page 345.

1275. E. W. HUMPHREYS.—"In God's Temple" is a misnomer for the print on which it is written, as it certainly does not in any sense deserve it. One half is occupied by one large and several smaller trees growing on a rising ground, while the other is a confused mass of what may be called brush. Anything good that might have been in the material on the right is spoiled by the introduction of a figure partly covered by foliage and leaning apparently asleep against the larger tree. As she is without visible motive, a spot of bright light where no such spot should be, it catches and keeps the eye, and sets the mind wondering what on earth she is doing there. This would be improved by trimming two and a half inches from the left, although even then it would hardly be

worth printing. Try again, making a vertical instead of a horizontal; include only what would be left after trimming as suggested, and keep the figure out unless you can give her an action that will contribute something to the composition, and you will have a fairly good picture. The photography, that is the technique, is very good.

1276. R. H. CLARK.—“The Fiddler” is purely a record of fact without any attempt at a pictorial effect, but it nevertheless, or rather just because it is so, has its value. That the fiddler is self-taught is shown by the way in which he holds his fiddle, and that he is in other respects untutored and enthusiastic, is equally shown by the way in which the heel is made to beat time. The background is not well shaded, and at the sides much too dark, while there is no indication of a distance between it and the figure. The lighting is also faulty, leading to blackness where such should not be, the back of the bow hand for example. In trying again, place the head lower, experiment with lighting till you get a better distribution of light and shade, and never forget the necessity for a feeling of atmosphere between the sitter and that which is behind. See page 344.

1277. F. E. BRONSON.—“Just Up from Measles.” Three boys, still in quarantine, looking longingly out of the window, probably watching the play-mates whom they cannot join, is a good idea not quite so well carried out as it might have been. The three heads in a horizontal line suggests the mechanical, and we should have liked a suggestion, however faint, of what was outside.

With a window directly in front of the camera, even a backed plate would hardly prevent halation, although it is more in evidence than it might have been. But in spite of those faults we like it, as it possesses at least one essential of all good pictures—food for thought.

1278. G. E. FITCH.—“Marquette Trail” is a fine subject from probably the best view point, but certainly not with the most suitable lighting, and with an excess of diffusion where moderate definition would have been a virtue. Instead of the lights and shades being massed and contrasted they are scattered all over the print. So far as we can see, you have exposed without consideration as to the best time, that is the suitable lighting; and you have focussed on the

extreme distance leaving the extreme foreground and especially the trees therein in a blurred condition, just the opposite of what in this case was needed to make a picture.

1279. OSCAR J. MORSE.—The unnamed print, a marine view with a sailboat on the horizon and on the right a mass of rocks and foliage crowned by a sort of temple, would have been better of an inch taken from the bottom and added to the sky, and should have had an exposure long enough to give even more detail in the shadows before the crests of the wavelets and especially the sky was, in the negative, so opaque as to make them in the print simply white paper. Possibly this might have been secured by development in a solution much weaker in reducer; but you may take it for granted that a print with a pure white sky is not worth looking at.

1280. A. E. AGRELIUS.—“Take Me, Papa,” a boy seated on the end of a rustic settee close to a Virginia creeper covered wall. The wall is probably painted white and so properly reproduced, but the dead bark of the bench and the boy's face are quite as white, that is white paper, while the creeper and what should be only shadows are as black as that paper can be made. But the cause is not, as you suppose, “the brightness of the day,” but under exposure and probably also improper development. See reply to your letter on another page.

1281. CARL C. DISTLER.—“The Haunt of the Hare” does not impress us so favorably as most of your previous efforts. The arrangement is satisfactory, but the material seems hardly worth it. If the subject *had* to be photographed, you have undoubtedly done the best that could be done; but it is one of those subjects that we should have left alone. See frontispiece.

1282. W. E. COGSWELL.—“May Flowers” is one of those pictures that attracts at the first glance but that fails to hold the appreciation; just the reverse of what a really good one is and ought to be. The subject, a lady gathering wild flowers, is always charming, and as the values are fairly true and the photography otherwise good, the first impression is, as already said, satisfactory. Closer study, however, reveals faults that greater thought would have obviated. The pose of the figure is sufficiently strained to show that it is artificial, giving unmistakably the feeling that she is

arranged to be photographed. The right arm seems relaxed instead of under tension; and, judging from the flowers already gathered and in the left hand, she would not break off those in the right with such short stems. Another and minor fault is the fence in the distance. A series of parallel horizontal lines is always damaging and might have been obviated by the choice of a different view point. The hat, too, albeit in the fashion, suggests the possibility of falling off. Lying on the grass, in the left foreground, it would have balanced the figure, while the figure would have been very much better without it. In spite of those faults, however, we congratulate you on having made a decided advance on most of your previous work. See page 354.

1283. J. A. GLASSEY.—"The Waves." Spray or surf would have been a better title, and even that has to be guessed at, as it is mainly "without form and void"; under exposure and over development having resulted in black paper rocks and cotton-wool spray and foam. The only good thing is the sky, and it is very good, but over development has made the water, which derives its light from it, lighter than the sky, and without an indication of translucency.

1284. E. M. HULBERT.—"The Willow Whistle," a boy on a boulder fence, "beating the bark," the first step in whistle-making, although fairly good might easily have been very much better. With the prominent tree less central the composition would have been stronger, and the position is made all the worse by both trunk and branches being simply blackened paper. The lighting was too much in front and the exposure too short, the result being such over development of lower lights and even middle tints as to make them high lights and scatter them all over the plate. The boulders, the boy's shoes, and many other objects are far too light, while, as already said, the trunk and branches of the tree are unnaturally black. See reply to "Typical Letter." You cannot get anything approaching true values without sufficient exposure. See "Answers." Also page 322.

1285. E. A. SHELDON.—"The Old Stone Bridge" is probably the best arrangement that could have been selected, but the print is far too flat, too wanting in contrast, and the reflections too pronounced. A stone thrown into the water just before exposure so as to convert the reflections into shadows would have been an improvement. Development has been stopped too soon, and the negative might be improved by slight intensification.

1286. JAMES THOMSON.—"Arise Fair Moon." The legend on the back is "Three hours' exposure, full moon, for landscape; stop f/16. Snapshot for sky," and the result is an out-and-out waste of material. A bare whitish foreground that may have been snow; the white outlines filled up with black of a house toppling in on the right; in the middle distance a series of black masses that properly photographed would represent trees, and a sky of masses of black and white unlike anything that ever appeared. We have seen many poor attempts at picture-making by moonlight but never anything quite so bad as this. Don't fuss with moonlight so long as you can photograph by day.

1287. DR. J. Y. SIMPSON.—"Sunset on Diamond Lake." We have shown this beautiful picture to the crowd on the piazza of the GERARD, at Point o' Woods, where the sunsets and moonlight scenes are unsurpassed in any part of the country, and the universal expression has been, "What a charming moonlight!" and "Moonlight on the Water" should have been its title, as both water and distant landscape are much too dark for a scene in which the going down sun is still one-fourth above the horizon. As a moonlight scene, however, it leaves nothing to be desired, and the longer we look at it the better we like it. We have rarely seen such limpidity and transparency on such dark water, and regret that in its reproduction so much of both will be lost. We should have preferred to include the mount in its reproduction, but Uncle Sam's messengers have effectually prevented that, it being broken through the middle, without, however, injuring the print, it having slipped from the mount. See page 341.

DRY plates can be kept to withstand any climatic influence by coating the box with a thin layer of paraffin wax.

Answers to Correspondents.

Correspondents are requested to notice that communications intended for the editors should be addressed to Dr. John Nicol, Tioga Centre, N. Y., from June 20th to September 10th to Point O' Woods, Long Island, N. Y.

FRANK R. QUINLY.—We doubt whether you will find on the market a sample of ground glass fine enough for photo-micrography. See the method of producing a substitute recommended by Mr. Slight on page 65 of our February number.

An equally fine, if not better surface, may be produced by etching with hydro-fluoric acid in the following way: Place in a suitable vessel 60 grains of gelatine, 80 grains of sodium or potassium fluoride, and three ounces of water. Soak for a few hours, melt by gentle heat and filter. While still limpid, warm and coat the plate in any convenient way, pouring on and off is easily done after a little practice, and when set, rear up to dry. When quite dry immerse for from 30 to 60 seconds in water containing one ounce of acid hydrochloric to the pint (16 ounces).

There is still another method which we have found to give an excellent surface. Prepare and coat with gelatine in the same way; but instead of the fluorine salt use barium chloride, and when dry immerse for from five to ten minutes in dilute sulphuric acid, say, half an ounce to the pint.

W. E. REPIND.—The lens referred to will be found as No. 5 of "Single Achromatic Lenses, Mounted," in the Gundlach Optical Co.'s catalogue.

JAMES BURNS.—The fault is not in the paper but in your careless handling of it. They are the well known hypo stains; distinct finger marks caused by touching the surface of the paper by fingers that have been in the fixing solution. It is *not* sufficient to "wipe them quite dry"; they must be well washed, and even then you must avoid touching the silvered surface.

H. L. McDUGAL.—We do not know why the maker recommends the dissolving of the metal before the sulphite and never act on it. Not only do we dissolve the sulphite first but we see that the solution is slightly acid before adding the metal. With ortol we employ potassium metabisulphate—half the quantity of ortol, and always dissolve it first. We do

not know anything about the discounts. Why not write the maker?

JESSIE R. MORTON.—You are mistaken in your idea of the object of "Our Portfolio." It is not intended to flatter and furnish opinions that you may show to your friends, but to point out your faults and tell you how to avoid them. You need not send the prints if you do not want us to say just what we think about them.

E. M. HULBERT.—Your idea of criticism is not quite correct, or rather it differs from ours. Referring to our notice of your print No. 1244, where we say something like that the blackness of the letters that the boy is represented as cutting out suggests the feeling that they are old and that consequently the cutting is a sham, you say, "I find your criticism mainly just, but you occasionally err in your deductions, one of those errors being in supposing that the letters on the tree were old, while the fact is that seeing the boy cutting them suggested the picture." In criticising such a picture we do not care for or take into account the conditions under which it was made, but the impression it makes; and although the "red inner bark" of that particular tree naturally photographed as a dark, and was so far true to nature, the *impression* conveyed, which was the only thing with which we had to do, was that of letters darkened by age.

ALICE MURRAY.—So long as you are a reader, no matter through whom you get the magazine, your prints shall be welcomed to the "Portfolio." Only one at a time, however; when more are sent we select the one the criticism of which will be most helpful.

W. D. L.—(1) The third on the list, although far from as optically perfect as either of the others and costing less than half of the cheaper of the two, will answer your purpose very much better than either. It will be four times as slow as No. 2, and will require eight times the exposure of No. 1, but as you do not care for snapping that is of no consequence.

There will, with it, be none of the appearance of false perspective of which you so justly complain. (2) There is no difficulty in getting a universal system of plate testing and marking except the unwillingness of plate makers to agree on one. We have more than once been in communication with several of them in connection with the subject, and on all occasions encountered that difficulty at the start. (3) A stock solution—10 per cent. of ortol with half its weight of potassium metabisulphate—has kept in perfect condition for six months and would apparently have kept indefinitely.

R. H. CLARK.—The claim cannot be sustained as there is absolutely nothing in it. There would be some sense in a lense that would exclude some of the too frequently excessive blue-violet, but none

whatever, for ordinary purposes, in cutting out the greens and reds to which the ordinary plate is already far too insensitive.

DR. DEARDON, rightly thinking that the planar in virtue of its large working aperture, is eminently suited for hand camera work, complains that he cannot find in the market a hand camera with a front board large enough for its flange; and we have had several similar complaints. Will camera makers please notice. We know that they are always ready to meet any likely demand.

MARCUS HATELY.—We do not care to discuss the commercial phase in which you are interested, but may say that probably the increase in the price of glass may be an offset to the reduced cost of silver.

Philadelphia Photographic Salon, 1901.

The Philadelphia Photographic Salon for 1901 will be held in the galleries of the Academy of Fine Arts, Philadelphia, from November 18 to December 14, 1901.

The purpose of the Salon is to exhibit that class of work only in which there is distinct evidence of individual artistic feeling and execution, the pictures to be rigidly selected by a competent jury.

No awards are offered, and no charge will be made to exhibitors. Each exhibitor will be furnished with a catalogue, which will be the official notification of acceptance.

No exhibitor must submit more than ten pictures, each of which *must be framed* separately.

The title of each picture and the exhibitor's name and address must be clearly written on the labels provided, which must be attached by the exhibitor to the back of each picture. Nothing may appear on the front of the picture except the title and the exhibitor's name.

All communications and all pictures submitted for exhibition must be addressed to the Pennsylvania Academy of the Fine Arts, Broad street above Arch, Philadelphia, Pa., U. S. A. All pictures must be forwarded at owner's risk, *carriage prepaid*, and delivered at the Academy not later than 5 p. m., Wednesday, October 30, 1901.

The management will use all reasonable care to prevent any loss or damage

to pictures in its charge, but will not be responsible for such occurrence.

Foreign contributors are requested to submit their pictures, *unmounted, by post*. The management will suitably mount and frame them before exhibition, at no cost to the exhibitor, and will afterward return them by registered post.

Jury of selection: Mr. Charles I. Berg, New York; Miss Frances B. Johnston, Washington; Mr. Allen Drew Cook, Mr. George W. Hewitt and Herbert M. Howe, M. D., Philadelphia.

Photographic Competition.

CAMERA SECTION OF THE HAMILTON SCIENTIFIC ASSOCIATION, HAMILTON, ONTARIO—CLUB TROPHIES AND GOLD AND SILVER MEDALS—\$50 IN CASH PRIZES GIVEN BY THE HAMILTON "SPECTATOR."

OPEN CLASSES.

A—Figure Study.....	Prize \$10
B—Landscape	" 10
C—Pictures, any subject, made with 4 x 5 camera or smaller.	
First prize, \$6; 2d.....	" 4

CLOSED CLASSES—MEMBERS ONLY.

D—Figure study, 3 pictures...	Prize \$5
E—Landscape, 4 pictures.....	" 5
F—Marine, 4 pictures.....	" 5
G—Enlargements, 2 pictures..	" 5
H—Four pictures, any subjects, for beginners of not more than one year's practice.....	" 5
J—1st, trophy and gold medal, awarded to member whose	

picture secures highest aggregate of points in all classes, open and closed.

K—2d, trophy and silver medal, awarded to member whose picture secures the second highest aggregate of points in all classes, open and closed.

All pictures for this competition must reach the secretary, James Moodie, Hamilton, Ontario, on or before November 1st, 1901. In Classes A, B and C pictures must not have been published in any newspaper or magazine. In Classes D, E, F and H at least four pictures must be submitted in each class, and these must be from negatives made since November, 1900. In Class G two pictures must be submitted, and these must be at least four times the areas of originals which shall accompany the enlargements. Competitors must write leg-

ibly on back of pictures submitted their name and address, class and title of picture. Prizes will be awarded by two competent judges—one an artist and the other a photographer, on the following basis:

Artistic merit, 25 points; subject, 25 points; illustrative value, 25 points; technique, 25 points. The decision of the judges shall be final.

All pictures awarded 60 points or over will receive honorable mention. Prize winners and other pictures of special merit will be published in the Christmas number of the Hamilton *Spectator*, together with the honorable mention lists. Only one cash prize will be awarded to any competitor. All pictures winning prizes to become the property of the section. Outside competitors wishing pictures returned must forward sufficient postage to cover carriage.

Recent Patents and Trade Marks.

The following digests were furnished by Messrs. Davis & Davis, patent attorneys, of Washington, D. C., and at St. Paul Building, Broadway and Park Row, New York.

669,971—MAGAZINE CAMERA.—Josef Adler, Berlin, Germany.

670,349—CONTINUOUS PHOTOPRINTING APPARATUS.—Lino F. Rondinella, Philadelphia, Pa.

The printing drum is surrounded by a casing which is formed with an exposure aperture. Closing this aperture is a flexible sliding shutter by which the extent of the opening may be varied to regulate the length of exposure.

670,683—PHOTOGRAPHIC ROLL HOLDER.—William N. Moore, Washington, D. C.

The roll holder is provided with a front board through which the film is passed in moving from the delivery roll to the take-up roll, and this front board is provided with slits of different lengths, the longer slits being near the outer edges of the holder, the space between each pair of slits of equal length being substantially equal to the length of the slits of the pair, whereby films of different widths may be used and the length of film exposed will correspond to the width.

670,842—PHOTOMICROGRAPHIC PLATE HOLDER.—Nathan A. Cobb, Sydney, New South Wales.

The plate holder is adapted to be directly connected to a microscopic tube and comprises a tapered body-portion having a socket piece at its smaller end adapted to engage the tube of a microscope. An exposure slide is mounted in the socket piece. The larger end of the body is provided with a ground glass and plate holder.

670,843—PHOTOGRAPHIC SHUTTER.—Nathan A. Cobb, Sydney, New South Wales.

A gravity actuated drop slide is provided with means for setting it at different heights and with means for releasing it from any of its positions.

672,711—KINETOGRAPHIC APPARATUS.—Wm. H. Reid, Washington, D. C.

672,926—FLASH-LIGHT LAMP.—Harrison B. Waite, Chicago, Ill., assignor of one-half to Lawrence Markey, same place.

To a powder pan is pivoted a punk-carrier, and to the punk-carrier is connected a pneumatic actuating means whereby the punk is caused to swing into the pan to ignite the powder therein.

672,963—FLASH-LIGHT LAMP.—Harry B. Shaeffer, Altoona, Pa.

A powder pan is mounted on a vertical reciprocating rod and above the pan is located a horizontal wick which may be lighted. Pneumatic means is connected to the pan-supporting rod whereby said pan may be elevated to bring the powder to the lighted wick.

Harry B. Shaeffer, Altoona, Pa.

673,054—PANORAMIC CAMERA.—David H. Houston, Hunter, N. D.

673,184—FLASH-LIGHT.—Allie R. Welch, Chelsea, Mich.

A pistol lock mechanism of the self-locking variety is provided with a receptacle for the flash-light powder and means are provided whereby the powder is ignited on the fall of the hammer. A spring cover is provided for the receptacle, the latching mechanism for said cover being released by the cocking of the hammer.

673,295—PHOTOGRAPHIC DEVELOPING TANK.—Carl Segna, Brooklyn, N. Y., assignor of one-half to Leopold J. Kiddle, New York, N. Y.

674,308—PROCESS OF PACKING SENSITIZED PHOTOGRAPHIC MATERIAL.—M. J. Steffens, Chicago, Ill.

The process consists of employing a temperature below the freezing point, winding the material under a positive and equal pressure into a rolled package subject to the action of and under the effects of the low temperature and the applied pressure, maintaining the low temperature and the pressure during the winding period of the package for excluding moisture from the package when completed, and finally inclosing the rolled package in an opaque wrapper under a positive and equal pressure, while inclosing and hermetically sealing the ends of the formed package and wrapper for rendering the package impervious to moisture.

673,461—PANORAMIC CAMERA.—William B. Thomson, Chicago, Ill., assignor to R. H. Trumbull, same place.

673,522—PHOTOGRAPHIC PRINTING FRAME.—Henry Higgins, Chorlton-cum-Hardy, near Manchester, England, assignor to John Wilkinson and Alfred Wilkinson, Manchester, England.

673,706—CAMERA SHUTTER.—Warren C. Dickerson, New York, N. Y.

A latching mechanism is provided for holding the shutter normally closed, a

reciprocating mechanism for tripping the latching mechanism in one direction of the movement of said latching mechanism, means for holding the reciprocating mechanism at the completion of the said movement, and means for opening the shutter by the return movement of the reciprocating mechanism.

673,909—APPARATUS FOR TRIMMING PHOTOGRAPHIC PRINTS.—E. H. Kimball, Glencoe, Ill., assignor to J. H. Smith, Chicago, Ill.

A device consists of a base, a guide-rod mounted on said base at one edge thereof, a plate mounted on said base and projecting beyond the side thereof opposite the guide-rod, spring arms adjustably mounted at one end on said guide rod and provided with hooks adapted to engage the projecting edge of the plate and a trimming-plate interposed between said spring arms and the plate carried by the base.

673,992—VITASCOPE.—Thomas Armat, Washington, D. C.

A tension device is provided to keep the film taut and prevent flexing or puckering at the point of exposure, said film being intermittently moved through the tension device at short intervals, said intervals exceeding the interval required in effecting the movement so that the period during which each picture is stationary and visible shall exceed the period occupied in substituting one picture for another. The film is so fed as to provide slack therein between the same and the tension device, whereby the film may be moved with great rapidity without unnecessary strain and wear upon the film.

674,227—SENSITIZED PAPER FOR PHOTOGRAPHIC PRINTING.—R. B. West, Guilford, Conn.

A sensitized paper for photographic printing, consisting of a paper coated with a solution of mercurous nitrate, ferric lactate and water.

674,810—PHOTOGRAPHIC KIT.—J. Math-ein, New Haven, Conn., assignor to E. & H. T. Anthony, New York, N. Y.

The kit is made of a single piece of aluminum of substantially the same thickness of that of the plate it is to support, and ledges are pressed from the material to support the plate, and a button is secured to the plate and adapted to be swung over one edge of the plate to secure the plate in the kit.

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No. 1304.

"DRAWING THE NPT."
BY
REV CHARLES TOWNSEND.

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NO. 9.

Photographing Wild Birds.*

BY HERBERT K. JOB.

PHOTOGRAPHING wild creatures in their haunts is one of the most difficult of fields for the student of the camera, requiring unlimited time, patience and fertility of resource. To a beginner the obstacles may seem insurmountable; but my experience with the birds leads me to the conclusion that there is no animal living, no matter how hopelessly shy, that cannot in some way or other be photographed. To circumvent with the camera one such artful dodger is a triumph that gives more satisfaction than the securing of hundreds of commonplace pictures.

FIG. 4. —NEWLY TRAPPED RED TAILED HAWK.

The apparatus necessary is very simple, and is within the means of nearly everyone. An ordinary long-focus camera, preferably the 4 by 5 size, about fifty feet of rubber tubing, with large pneumatic bulb; a spool of strong black linen thread, a ball and socket clamp, with an attachment to fasten

* All rights to illustrations reserved by the author.

FIG. 1. —COOPER'S HAWK ON NEST. PHOTOGRAPHED FROM ABOVE.
FIG. 2.—BURROWING OWL, GUARDING ENTRANCE TO BURROW

it to the tripod; a screw-bolt about a foot long, bent in the middle at right angles, for tree work, one end to be screwed into the tree, the other wound with leather to fasten the clamp upon. I have also found Nehring's telephoto ampliscope useful, nearly doubling the size of the image without serious increase in the time of exposure. The regular telephoto is too cumbersome to be often of much use. Of course an anastigmat lens is an advantage, as most of the exposures must be instantaneous, and it is often hard to get enough light. My work, however, has been all done with an ordinary rapid rectilinear lens. Common quick plates I think are the best.

For photographing birds the nesting season offers by far the best opportunities, though some work can be done at other times. Last winter, in planning for the spring's work, besides arranging for a trip to the wilds of the West, I resolved to put to severe test my theory that any living bird can somehow be photographed. The task that I selected was one which I had never heard of being mastered, or even attempted—to photograph a hawk, generally the shyest of birds, in the act of incubation.

April came, and I tried my plan upon the first hawk's nest that I found, built by a "Red-tail" on a tall tree on the steep slope of a mountain. Without a single preliminary I screwed the camera up in a tree adjoining the nest, focussed it, attached my long tube, and, withdrawing, covered

myself with boughs in a crevice of the rock. The hawks sailed around overhead, and after two hours of painful waiting I had to give it up.

Early in May I found another nest, of the Cooper's Hawk, built in a crotch of a hemlock tree, forty-two feet from the ground, in a lonely tract of woods. There were five eggs, and the female was so shy that only by approaching very cautiously could I see her leave the nest. This time I determined to be less precipitate in my method. On the day of discovery I merely trimmed off some branches near the nest to give a clear view from above—the only direction from which, as the tree was, a picture could be taken. Returning a day or two later with a dummy camera—a small box with a hole cut in one end—I screwed it upon a neighboring tree near the ground, with a piece of burlap pinned around it, leaving it for a day for the bird to become accustomed to it. Then, as she had not deserted, I took the dummy up in the tree and screwed it to a branch about six feet above the nest. This I feared would end matters, but great was my joy on my next visit to see the hawk again glide from the nest.

Now for the tug of war! I put my camera in place of the dummy, covered it with the same cloth, set the shutter, attached my thread, and dropped the spool end to the ground. Descending, I took a turn of the thread around a sapling, then unwound it carefully through the woods for a hundred yards to a bower I had previously built, and lay down to watch. A long silence ensued. Then the hawk began to scream and fly

FIG. 3.—FRANKLIN'S ROSE GULL ON FLOATING NEST.

FIG. 5.—YOUNG LONG-EARED OWLS ON NEST.

around. She did not detect my presence, and after forty minutes suddenly darted on the nest as though fired from a gun. Excited and exulting, I pulled the string, and the deed was done. In the dark-room, however, to my unspeakable sorrow, I found that the plate somehow had been previously exposed! There was nothing to do but try again, and this time, after a much longer wait, I secured the picture in the illustration. (Fig. 1.) Is my proposition proved?

Another series of interesting experiments was made a little later out in North Dakota with a Burrowing Owl that stood guard continually at the entrance to his burrow in the prairie. As birds will seldom approach a tripod in

No. 1298.

"HOMeward."

By H. E. Byrne.

the open, I set the camera on the carrying-case, focussed it on the spot where the owl usually stood, covered it with weeds, and lay down on the prairie with my thread, some distance away. The little fellow was anxious to return, but he could not quite brave this mysterious intruder. Finally, I dug up some squares of sod, and, piling them where I wished to place the camera, went away. Next day the bird was so accustomed to the sods that, when I made them into a hollow square with the camera inside, he did not notice the difference, but came up like a little man and stood six times for his picture. (Fig. 2.)

A paradise for the bird-photographer was a large Dakota lake where thousands of the beautiful Franklin's Rosy Gull had their floating nests amid the grass growing out of the water. After leaving the tripod—lengthened out by splicing poles to each leg, the top covered with a focus-cloth—standing in the water among the nests over night, next day I could plant the camera upon it within a yard of the nest, push off in the boat to the end of the tube, and have the birds almost immediately return,

"A WOODLAND SCENE."
BY
HERBERT F. SMITH.

No. 1294.

thus securing pictures galore. (Fig. 3.) In this case it was not necessary to try to conceal the camera.

These incidents will suffice for illustration of the general methods of bird-photography. In each case details must be devised according to circumstances, the principles being to focus the camera on a spot to which the bird is likely to come, conceal the camera as much as possible, and accustom the bird gradually to its presence. This means time and labor, and it is useless to attempt it with any other motive than love of the wild creatures and interest in their ways.

Hand-camera methods I have found only occasionally practicable, for instance, after baiting up such fearless birds as petrels and shearwaters following a boat, or among breeding colonies of certain seabirds, as on Bird Rock, Magdalen Islands. Another way is by getting birds, in the winter, to come for food, having the camera focussed on the food. Captive birds often make good subjects, especially the larger species. A trapper friend sends for me whenever a feathered marauder gets detained in his mink or fox traps. (Fig. 4.)

Young birds in the nest, just before flying, are interesting to work upon, though sometimes—as when photographing the young owls in the illustration (Fig. 5), aloft in the forest, the old owls striking me on the head and tearing the camera-bellows with their claws—things become decidedly interesting in ways not desired!

The Waning of the Popularity of the Camera.

BY AN OBSERVER.

DOUBT whether it will be generally believed, but it is a fact nevertheless, that the popularity—a certain kind of popularity—of the camera is on the wane. It has been my fortune, good or bad is not now in question, to spend a few weeks each summer for the last dozen of years at one popular resort, and being interested in photography, although my camera never goes with me on these holidays, I have been an interested spectator of the rapid growth and almost as rapid decline of the kind of popularity to which I now refer.

No. 1289. By Mrs. G. H. Foster.
"AFTER DINNER."

Just how that popularity arose it is not necessary to inquire except to say that the famous couplet, "You press the button, we do the rest," deserves much of the credit or the blame, according to the point from which

it is regarded, it being sufficient to say that it seemed to have culminated some three or four years ago, when certainly every third man or woman carried a camera of some sort and might be seen snapping in season and out of season, and under all kinds of conditions. Of the results of such snapping those that "do the rest" no doubt could "a tale unfold," but as it is told only to the snapper and by the number of "failures," for the development of which only half price is charged, we are left to guess at it. But the guessing need not be difficult to those who know anything of the limi-

No. 1295.

"JUST BEFORE THE STORM."

Dr. A. J. Gareschue.

tations of such hand cameras, nor even to those who do not, if they have observed the fact that rarely indeed is a camera seen in the same hands for two years in succession.

For that, of course, the hand camera is not to blame. Within its limitations it is of much greater value than the ordinary camera on the stand, as, while it can, on the stand, be made to do all that can be done with the ordinary camera, it can do much that the ordinary camera cannot do. But while in the hands of the experienced photographer it is invaluable, to the

inexperienced it is a snare, bringing grist to the mill of the platemaker and disappointment and disgust to those whose knowledge of photography does not go beyond what the dealer told them.

Nor is this waning interest to be regretted, especially by those who love photography as a means of picture making; the few results of such snapshotting that were permitted to see the light being such as could bring only discredit on the noble art. Indeed, so far were they from being things of beauty, so wanting in gradation, and so apparently false in perspective, that those who produced them had to apologize for every print they showed, and the general public began to speak of such faults as "photographic" or as incident to photography.

No. 1290.

"ON FISHING BENT." By G. E. Foster.

Nor is this abuse of the hand camera the sole cause of the apparent waning of the interest in photography by holiday makers. The more sensible of them are finding out that the camera as a plaything is a mistake. Picture making requires more thought and care than the fagged out professional or business man who goes on a holiday for rest and recuperation can give, and so he wisely chooses some less exacting change of occupation. But as this phase of the question is much better shown than I could do it in the following extract from an article in *The British Journal of Photography*, I have pleasure in appropriating it:

It is very pleasant in the abstract to think of gaining a pictorial record of a pleasant holiday, that, made up into a little hand-book, would serve in winter months to jog up pleasant remembrances of summer pleasures, or show to a friend when dilating upon them. The only drawback is, that in the concrete the little book is so very rarely seen, and if seen, is not regarded as having come up by any means to expectations. If a man were to set about such a matter in all earnestness, and as hard work, he would find it very difficult to carry it out satisfactorily. It is hardly likely that he is going to succeed when in holiday mood. The same applies to the individual picture. If worth anything it must have meant thought and work. A holiday means exactly the opposite. Being diametrically opposed, they cannot be both carried out properly at the same time. It is hard enough to bring down two birds with one stone when in a line, but if not in a line it comes pretty near to an impossibility. Oh! but we don't mean pictures in

this complete sense, but merely something to serve as reminders. All very well until the reminders are being developed, when it is borne in clearly enough that it was pictures we really meant after all. We are not going to say that it is not possible to gain an occasional good thing as a snap-shot taken in a hurry. But we also state with emphasis, that for one good thing thus gained by a mixture of good judgment, favorable light, and lucky composition, fifty are gained that are very far indeed from being good. It makes no difference to the camera that the one who carries it is out for a holiday. It exacts the same rigid and minute compliance with its demands before success can be gained, as it does in the case of a professional worker taking a factory front. If the sun is not in the right place in the morning for his purpose of snap-shotting the fishing boat hoisting its brown sail as it gently drifts towards the harbor bar he will do no good. He must come back again in the evening. But in the evening he is on the pierhead listening to the band. Which is it to be, band or boat? It is this conflict of object that stands to reduce the pleasure of the holiday. The photographic possibility is always suggesting itself, and keeping the strings of attention tense, when to get the full benefit of the change they should hang loose. That is, if the possibility of action in the presence of the camera be present. Otherwise, merely as a lazy sub-conscious composing of imaginary pictures, the photographer with a dash of the artistic in him has a great advantage in the added pleasure over his fellow holiday-maker who knows nothing of photography. If some attendant sprite could carry the camera, and be ready to hand it to its master at a beck when he thought he had reached the psychological moment, it would not be so bad. But this is, of course, out of the question, and the camera must be carried by himself. It is astonishing what a nuisance even a small hand-camera can become in a day's outing if the object with which it was taken was merely the hope of catching something. Full physical freedom is lost, and when the other members of the party are free to swing their sticks, climb rocks and jump across the brooks, he, with the camera in hand or slung across the back, must move more gently and warily. If anybody feels disposed to doubt

No. 1302.

By F. E. Bronson.

"THE SONG OF THE SOCK."

it, the proof is easy. Let him take a camera with him to a picnic. And far more important, mental freedom is also lost, for he is eternally on the look out for a photographic scrap to justify his burden. This can hardly be called enjoying a holiday, even though the pictures turn out successes. It is still less enjoyment if they prove failures, which they most likely will, taken under such circumstances. Holiday pictures do not, as a rule, lend themselves to the camera. Perhaps they are more impressions than pictures. Take a man at the seaside, for instance. It is not the breaking wave photographable in the small angle of the beach that appeals to his fancy, and makes him feel certain that he is enjoying himself, but the full airy breadth of the sea, the long

No. 1288.

By A. G. Graff

"THE MILKMAID."

stretch of sandy or rocky coast, clear-cut in brilliant sunshine close at hand, lost in faint horizon haze ten miles off on each side. Further, the whole is a contrast to his usual hemmed-in surroundings. When for a whole year, bar a fortnight, desk and ledger have formed the elements of a foreground, a blank wall the middle distance, and the further distance has to be filled in from imagination, small wonder that the ample breadth of the open face of Nature should be agreeable during a holiday. We do not say that these broader features cannot be expressed by suggestion in a photographic picture. They have been. But not by the ordinary every-day photographer. It is work for men very much in earnest upon conveying a definite impression, which they have been at great pains to reduce to technical practicability, and patiently waiting the favorable opportunity for action, loth to present itself. We need not confine ourselves to the seaside for an illustration. The same qualities please the soul, and handicap the camera, on the moor, the "broad," and the lake, or amongst the mountains. As a rule, too, they are at their best in the twilight when photographic possibilities are at their lowest.

Even though it were possible to photograph a pleasing picture with a fair amount of success, it is doubtful whether upon the highest considerations it would be advisable to do so. There are some pictures better left with the hazy glamour that the imagination has softened them down with, than expressed in any clearer way. The hum of bees, the scent of honey-

suckle, the glow of gorse, the springy couching of heather, and the sunset glow of color in the west cannot be put into any photograph. Pictures such as these are not album pictures. They are never medalled. But there is never any question as to whether they are the best, nor as to their value in lightening up life. Most possess a few; happy they who possess many. Holiday time is the most favorable time for their acquisition—in our opinion, with body and mind free from the grosser burden of a camera, for the attempt at a commonplace picturing of that portion which can be done may spoil the perfect ease and rest absolutely necessary for the reception upon the tissue of the soul of the fuller and finer-grained picture as a whole. There is no disrespect to the camera we hasten to add, but the reverse. Still, it is not the highest consideration in life, and the best is far more likely to be got out of it confined to its own true ground, than if introduced with well-intentioned but mistaken purpose, into time, place, and mood, ill-adapted to its use.

The Shutter, the Stop, and the Exposure Meter.—IV.

THE Wynne "Infallible" Exposure Meter is, as we said in our last, in size and shape like an ordinary watch with a fixed dial and movable glass, the latter carrying a concentric circle on which is printed diaphragm values, which are also plate speeds, from $f/4$ to $f/362$, and the former indicating numbers for actinic time and exposures of 1-128 of a second to 64 seconds. The dial, in addition to the figures indicating the actinic time, has a slot near its upper edge, on each side of which is painted color tints, that on the right of the slot for general use, the one on the left only half as deep, intended for testing the feeble light of dark interiors. Behind the slot there is a disc of sensitive paper, a fresh portion of which is brought into position after each test by revolving the back of the "watch" to the extent of $\frac{1}{8}$ of an inch.

In employing the meter the first step is to ascertain the intensity or actinic value of the light. For this purpose a fresh portion of the sensitive paper is brought under the slot and the meter exposed to the light, pref-

erably in the shade of the body, and the number of seconds required to bring it to the same shade or depth of coloring as the tint on the right carefully noted. There is little difficulty in counting seconds with sufficient accuracy, as there is ample latitude, the one thing needful being that the same rate of counting must be maintained in noting the actinic time and in making the exposure. Suppose eight seconds was occupied in darkening the paper 8 is said to be the actinic time; and the "speed number" of the plate that is to be employed, and which will be found on the revolving glass, is brought into line with the actinic time on the fixed dial. Those speed numbers are also f values, $f/32$, for example, and the speed

No. 1291.

By W. H. Blacar.

number having been, as already said, brought in line with the actinic number, it is only necessary to run the eye round to the value of the stop that is to be employed to find in line with it, on the fixed dial, the required exposure.

For example, we find while we write that the test paper darkened to the desired shade in eight seconds, and the speed number of the plates we are now using being $f/78$, that number on the revolving glass was placed opposite 8 on the fixed dial. Running the eye round the numbers on the glass we come to $f/32$, the stop to be employed, we find opposite it on the dial 1.5, or one and a half seconds, which is the correct exposure under those conditions for an ordinary landscape.

THE SHUTTER, THE STOP, AND THE EXPOSURE METER.—IV. 401

So far all is plain except that we are dependent on the makers of the meter for a knowledge of the speed of the plates. Such a speed list accompanies each meter, and it is from time to time republished; but here at least complaints are rife both as to the omission of the plates of some of our popular makers, and of the inaccuracy of the numbers of some of those that are included. Those complaints have reached the ears of the

No. 1297.

"THE OLD FERRY."

By Edgar Wells.

Wynne Infallible Meter Co., and we know that nearly a year ago the Messrs. Anthony & Co. sent samples of almost every American plate and film from which to make a new and correct list, the advent of which we shall be glad to make known.

In the meantime, however, those who desire to employ the useful meter need not wait for the speed list, it being quite within the power of the average amateur to make one for himself, or to test the speed according

to the Wynne system of any particular plate; the speed number being simply the size of the stop relative to the focal length of the lens that would give a correct exposure in the actinic time.

To make this clearer, let us take the time and figures already mentioned. We found that eight seconds was required to darken the test

"THE MOTHER." By Mrs. Myra Albert Wiggins.

(First Prize in Bausch & Lomb Plastigmat Contest.)

paper to the shade of the test tint, and knew that the speed value or number of our plates was $f/78$, which means that their sensitiveness is such that with a lens stopt down to $f/78$, or with a stop 1-78 of its focal length, they would be correctly exposed in eight seconds. In other words, the

speed number of a plate is the F value of the stop that would give it a correct exposure in the "actinic time" which is the number of seconds or any other fraction of time that may be required to darken the test paper to the shade of the test tint.

From this it will be evident that it is only necessary to reverse the process to make the exposure tell us the plate speed or speed number instead of the speed number telling us the exposure, and the following is one of the ways of doing so.

It may be taken for granted that all of the plates in general use for ordinary purposes are included in speeds between $f/45$ and $f/90$, and that a succession of five exposures with a suitable stop will, on development, show pretty clearly the relative speed. The exposures should be made with $f/32$ consecutively on one plate, or if inconvenient to do that, on separate plates, with times respectively of $\frac{1}{4}$, $\frac{1}{2}$, 1, 2 and 4 seconds, and developed together or separately, the object being to ascertain which of

"THE BATHERS."

By Harry Coutant.

(Second Prize in Bausch & Lomb Plagiat Contest.)

the five most nearly approached correct exposure. In practice we repeat the operation three times, using a slide specially made, develop two of them together and cut the other into five for separate development, although as a rule a mean of any three differs very little from any one.

Having ascertained the number of seconds or fractions thereof that gave the best exposure with $f/32$, it only remains to bring those two numbers in line, and ascertain the actinic time, and opposite or in line with that the figures on the revolving glass will be the "speed number" of the plate. If, for example, the two seconds' exposure gave the best result, and the actinic time was found to be eight, on turning the $f/32$ of the movable glass to the 2 on the dial, the 8 of the dial would be found in line with $f/64$, which consequently would be the speed number; and ever afterwards, no matter what the actinic time may be, that is, no matter how bright or how dull the light, the placing of $f/64$ in line with it shows at a glance the correct exposure with any stop from $f/4$ to $f/181$.

The photographer who has followed us thus far, or who may carefully study those four articles, should be in a position to ascertain for himself the various speeds of his shutter and make such corrections as may be necessary, to ascertain the true equivalent focus of his lenses, and the relative sizes of the diaphragm openings, or to make sets of new stops. He should also understand and see the beauty and simplicity of the exposure meter, and by finding the plate speeds for himself, be independent of the published lists with all their asserted faults; and we can assure him that that knowledge, and especially if it be the result of his own testing, even if only for the corroboration of the information supplied by the various makers, will add a new or additional charm to his photography.

Glycin and Hydroquinone Developer.

AFTER considerable experiment we have found the combined glycin and hydroquinone developer to be not only very effective and durable, but also one of the cleanest yet tried, which makes it particularly suitable for amateurs whose dark rooms have to be bath rooms, for it will not stain marble, towels, or the hands, should any of the developer come in contact with them.

It is also a very flexible developer, capable of being adjusted to most any kind of exposure, by simply adding, from time to time during development, a few drops at a time of the carbonate of potash solution, strength of one ounce dissolved in ten ounces of water, or instead, a solution which has previously been used and kept for a few days.

In one mixing it is possible to develop two dozen plates in succession, one as clear as the other. The developer is absolutely free from producing chemical fog, even during prolonged development.

Two solutions are prepared as follows:

No. 1.

Glycin (Hauff).....	180 grains or 12 grammes.
Hydroquinone	60 grains or 4 grammes.
Carbonate of potash.....	180 grains or 12 grammes.
Sulphite of soda, crystalized.....	690 grains or 45 grammes.
Water, hot or very warm.....	10½ oz. or 300 c. c.

In hot weather it is advisable to preserve it in small bottles, and place in lower part of icebox.

No. 2.

Carbonate of potash.....	1 oz.
Water (cold).....	10 oz.

For use, take one part of Solution No. 1 and two parts of No. 2. Bromide of potassium is not necessary, as the negatives will be clear without it.

With a slight modification it is possible to produce with this developer very good negatives from plates which have been greatly overexposed by using the following solution:

No. 3.

Glycin	75 grains or	5 grammes.
Sulphite of soda, crystalized.....	450 grains or	30 grammes.
Carbonate of potash.....	390 grains or	26 grammes.
Bromide of potash.....	15 grains or	1 gram.
Water, warm.....	20 ounces or	625 c. c.

This solution can also be used repeatedly. For doubtful cases, as an overexposure, it will be a very sure way to use half and half. That is, mix of Solutions No. 1 and No. 2 only half the quantity needed, and add the other half from Solution No. 3.

For ordinary exposures with the developer showing a temperature of 70° F., the image usually appears in about twenty seconds after the plate is covered with the developer, and development is generally completed in about five minutes. If at this time the plate is not sufficiently dense when viewed by transmitted light, it is only necessary to continue the development until the desired density is reached.—*Scientific American*.

Contribution Box.

DEVELOPING UNDER EXPOSURES.

I MAY at once confess that I am one of those snap-shotters of whom the Editors, and not without cause, have such a poor opinion. But I do not expect pictures, and consequently am not disappointed; my aim never going beyond a "record of fact" or graphic memoranda of such scenes as take my fancy. I may also confess that up to a few weeks ago I have never been quite satisfied with even the best of that memoranda, and the more I read in the journal the less satisfied I became, and the more clearly I understood the cause. The fault was want of gradation, and the cause under exposure.

Although my camera is one of the best of the reasonable price variety, the largest working aperture of the lens is only No. 4, or F/8, and even with the fastest plates, except under the most favorable conditions, ordinary development, just as the editors have again and again foretold, results in white and black without any gradation between, or what they so expressively designate "soot and whitewash."

A more rapid lens, that is, a lens with a larger working aperture, being beyond my means, I was shut up to what might be done by different

methods of development, and after trying various modifications ultimately settled on one that, while not doing all that I should like, gives me very much better results, and although there is nothing new or novel about it it may be helpful to others whose aims are no higher than mine but who are as far from realizing them as I was before I adopted it.

It is stand or "tank" development, and the formula is as follows:

Ortol	20 grains.
Sodium sulphite.....	80 "
Sodium carbonate	100 "
Water	50 ounces.

The tank is a rubber fixing box in the grooves of which the plates stand all facing one way so that they can be lifted out by a bent wire without scratching. In this they remain from four to six or eight hours, and even occasionally all night, or until all that is possible be developed, and without the objectionable opacity of the lights.

When all the detail possible is obtained the plates are taken one by one and immersed in normal developers, but with a double quantity of reducer till they are sufficiently dense, that is, till only the very highest lights are opaque, when the lower lights, all the way down to middle-tint, will be found each with its respective degree of density.

I do not, of course, wish to be understood as saying that this method of development will make up for want of exposure; but I have had abundant evidence that by it more can be got from under exposures than by any other method, and that since its adoption my prints have largely lost their "soot and whitewash" character. C. H. FERGUSON.

DARK OR STAINED BROMIDE PRINTS.

For some time I have followed photographers generally in giving up printing out paper and employing one or other of the various bromide or developing varieties, although with all I have been more or less troubled with dingy whites and a tendency to surface stains. Consultation with those whose experience was greater than mine suggested almost as many causes as there were friends consulted; too much and too little bromide, impure water, over development or over exposure, etc., etc., all of which were either tried or avoided without benefit.

But although the cause is as great a mystery as ever, I have found a cure in a careful swabbing with weak Farmer's solution; and my prints, although as bad as ever when they leave the washing water, are in a few minutes thereafter, so far as the absence of dinginess, surface stains, and even a little over printing is concerned, equal to the best.

I keep on hand a ten per cent. solution of hypo and a saturated solu-

tion of potassium ferricyanide, and just before use add to, say, a tablespoonful of the former, sufficient (a few drops) of the latter to make it a pale lemon color. This I apply on a tuft of cotton, and by a circular motion, either locally or all over the surface of the print as may be required, and immediately plunge into plenty of water and wash well.

W. R. HASTINGS.

CLOUD NEGATIVES.

Our teachers differ so much as to how best to secure clouds, or a set of cloud negatives, that, circumstances being favorable, I resolved, at the cost of time, temper, and plates, to find out for myself. I do not suppose that I have hit on the best method, but it is one that gives with ease, and certainly just what I want; and although there is in it nothing new, it would have been a boon to me before I undertook the experiments, and I record the results in the hope that it may be useful to others:

I recognize only two kinds of clouds, masses of dark on a more or less gray sky, and white clouds in all their various forms on a blue sky. The former are less generally useful, although if made with a pretty full exposure and kept thin, there are many subjects in connection with which they may be used with advantage; while there are few that may not be vastly improved by a suitable selection of the latter suitably printed.

Negatives of dark clouds on a gray sky are easily made in the ordinary way; that is, without any special arrangement of apparatus or modification in manipulation. I employ whatever plate happens to be in my holders, and invariably an aperture of $F/22$, the exposure of course depending on the light, and according to my note-book varying from half a second to two seconds.

Negatives of white clouds on a blue sky are far more generally useful and more difficult to produce, although with a suitable arrangement and care the failures may be few. Cut films are better than plates, because they double the stock, as they may be printed from both sides, and the ordinary film seems to be in every respect as suitable as the orthochromatic. The one essential thing is a suitable color screen or filter, something that will absorb just enough and not too much of the blue of the sky. The shade of color seems of less importance than its density, as I have employed with equal success a greenish yellow and a reddish yellow, and after much messing with colors, collodion and cover glasses, I have settled down with a screen supplied by Carbutt as suitable for "white clouds on a blue sky," and advise everyone to do likewise. I may add, however, that those who have a B. & L. ray filter will reach the same goal by using it with the solution just a little over half strength.

A cloud negative should always include a strip of the landscape under it, not only that one may see at a glance which are the top and bottom, but also because the nearer the clouds are to the horizon the more natural they appear in the print. It is well also to keep to one size of stop as an aid to correct exposure; $f/22$ answers admirably.

White clouds on a blue sky and bright sunshine go together, and although that sunshine varies considerably in brightness, there seems to be sufficient latitude to admit of fairly uniform results by sticking to practically one exposure. That at least is the inference I draw from the fact that eighteen negatives exposed at various times and in various places during the past six weeks are all uniformly good, and they each got an exposure of 1-25 of a second as recorded by a Thornton-Picard shutter.

Briefly, then, dark clouds on a gray sky may be photographed as an ordinary landscape, getting a full exposure, which would be about from a half to two-thirds of what would be sufficient for the landscape under it, and development should be stopped while the negative is still thin or weak as compared with what the landscape should be. White clouds on a blue sky can be satisfactorily photographed with ordinary films, a yellow screen deep enough to make a correct exposure 1-25 of a second with $f/22$, and should be developed for contrast, *i. e.*, with a solution strong in reducer and weak in alkali, with a full quantity of a bromide.

ALFRED JACKSON.

A PRINTING PAPER FOR THE NOVICE.

As I have a desire to try all new things advertised, I accordingly procured some of the Eastman W. D. Platinum Paper as soon as it came out. I have been so well pleased with the results, and the ease by which they are attained, that I desire to recommend the paper to all who have limited work-room facilities and less time to spend in mixing solutions. My time during the day is so occupied that I have little opportunity for printing, save an occasional negative out of the office window, and I find that nothing is better adapted for this than W. D. Platinum. The latitude of exposure is so great that if I forget the printing frame for twice as long as necessary to print it does not spoil as other papers will. My wife and daughter do most of my printing, however, and I know of no paper more suitable for a lady's use. Nothing but clean hot water to be used in developing, with a weak clearing bath of hydrochloric acid and water. The prints being on matt surface or rough paper, look artistic and may be easily tinted with water colors.

J. C. CALDWELL.

Words From the Watch-Tower.

BY WATCHMAN.

THE editors are down on lay competitions, and for several very good reasons. Here is one more that had not occurred to them, they tempt the weak to wrong-doing, as is shown by the following, which we clip from *The British Journal*: "Amateur Photographic Competitions.—A Charge of Fraud.—At Bow-street, last week, before Mr. de Rutzen, Allie Annie, 27, of Beauchamp place, South Kensington, was charged on a warrant with attempting to obtain 10s. 6d. by fraud, from Messrs. George Newnes (Limited). Mr. R. J. Drake appeared to prosecute, and stated that among the prosecutors' weekly publications was a paper called *The Lady's Field*, in connection with which a camera club was started last year, with the object of encouraging amateur photography. Prizes were offered for girls between fifteen and eighteen, and in one of the April competitions the first prize of half a guinea was awarded to "In an Old Garden," by Allie Annie—'aged 15¼; done entirely without assistance.' Immediately this photograph was produced in the paper, however, a Miss Pilkington wrote to Messrs. Newnes stating that it was taken by her. As a result of this communication, the prize was withheld, and inquiries were made, which resulted in the discovery that the prisoner was the person who, some time back, established what was called *The Victorian Magazine*, of which there were only one or two issues. In this magazine a photographic competition was advertised, and among the hundreds of photographs obtained in this way was the one sent by Miss Pilkington, with which prisoner had nearly succeeded in obtaining a prize from Messrs. Newnes. Evidence bearing out counsel's statement was given by Miss M. E. Brooke, secretary to Mrs. Macdonald, editress of *The Lady's Field*, and by Miss K. D. Pilkington, of 192 Queen's Gate, South Kensington. The latter stated that the photograph in question was taken in the garden of Clifton Hall, Nottingham. It was awarded a certificate by the Victorian Society, but witness never received it. When arrested by Detective Sergeant Stephens, who produced his warrant, the prisoner said, "You needn't bother about reading it; I know all about it. All these prizes are frauds; there are many others doing it besides me." Accused now pleaded guilty, and Mr. de Rutzen committed her for trial."

* * *

It is said that a certain class of people and their money are soon parted, and the saying implies a lack of wisdom in that class, although, perhaps, kings may be exceptions. Be that as it may, the Sultan of Morocco has just had made to order two cameras at a cost of \$15,000; a quarter

plate, the fittings of which, including the sheaths and lens mounts were of hall-marked, 18-carat gold, for \$10,500, and a half plate, every metallic part of which is equally hall-marked sterling silver, for \$4,500. Adams & Co., of 26 Charing Cross, London, had the honor, to say nothing of the profit, to be the recipients of the "command"—kings always command—and, so the British journals say, have made things of beauty, but whether they will bring joy in the shape of successful work to their dusky possessor remains to be seen.

The quarter plate camera without the gold is the ordinary "Adams de Luxe," acknowledged to be one of the best hand cameras on the market, but as the one in question has about ten pounds of gold in its construction, we have little doubt but that any one not a king would prefer, when work was to be done, to do it with the less expensive apparatus.

* * *

That photography as a fad is not fading there is no lack of evidence, one London firm alone having sold during the past six months 50,000 cameras, and during the same time 320,000 dozens of plates to fit them. True, the camera is only the "Little Nipper" costing one dollar and eight cents, and the plates twelve cents per dozen, but the quality of both is such as makes it possible to do the very highest class of work with them.

* * *

"Look before you leap" is good advice of almost universal application. Here is an example of what in one case followed its neglect which I found in an Australian newspaper. Some vandals had done considerable destruction in a fine conservatory, and it so happened that a lady, an amateur photographer, seeing two ladies issuing from it carrying each some beautiful maiden-hair ferns, conceived the idea of snapping them. On seeing an account of the vandalism next day she sent a print of the snap-shot to the *Bendigo Advertiser*, thoughtlessly jumping to the conclusion that she had caught the vandals, and the newspaper reproduced the print. The consternation of all concerned may be judged when it was found that instead of being the vandals the ladies were honored visitors to whom the gardener had given some of the broken down ferns.

* * *

An equally serious case of jumping at a wrong conclusion recently occurred at Burnham, a small town in England. The wife of a banker in South Africa, living temporarily in that town, and going occasionally to the studio of a photographer to be photographed, was accused of and prosecuted for theft, under the following conditions. It would seem that a hand camera had been stolen from the photographer's establish-

ment, and that some time thereafter the lady in question called with or left just such a camera to be filled with a fresh roll of film. It was recognized as the stolen instrument, and without further ado the charge was made and the prosecution instituted. The evidence showed that the camera had been given to the son of the lady by the nurse, who had subsequently left her service, a plea afterwards confirmed by the nurse confessing that she had stolen it.

* * *

As a rule, statements connected with photography emanating from the lay press are to be taken with a very large quantity of salt; but for this once *The New York Times* may have blundered into something not far from the truth. It says: "The largest photograph plate ever made is being manufactured by the G. Cramer Dry Plate Company, of St. Louis. It is 8 feet long by 4 feet and 8 inches wide, and $\frac{3}{8}$ of an inch in thickness. It will be used by George Lawrence, of Chicago, who from a balloon will make a photograph of St. Paul and Minneapolis." What the G. Cramer Dry Plate Co. cannot do in connection with dry plates need not be attempted by any other plate makers, but surely George Lawrence, of Chicago, would come nearer his mark by the making of a much smaller negative and enlarging.

* * *

How often do we see ortho. or color sensitive plates recommended, even by recognized writers, for photographing white clouds on a blue sky, and how absurd the recommendation seems when one thinks about it, there being no trace of color in the subject. The one thing essential is a yellow screen with a more less trace of red, to absorb some of the blue of the sky, the depth of the screen depending on the tone of sky desired. The lighter the screen the less the contrast between the clouds and the sky, and *vice versa*.

* * *

LIGHTNING PHOTOGRAPHS ON THE SKIN.—The lay press has as usual been dealing with its periodical skin photographs, and notwithstanding the fact that its absurdity has been again and again shown it finds thousands of believers. It is always the tree under which the stricken one had taken shelter that is reproduced, and always with bare branches, although it usually occurs during the summer when the trees are in their "mantle o' green." In the *Amateur Photographer* (London) of July 12th, Dr. E. C. Finchman has an exhaustive article on the subject, in which he shows, as has often been shown before, that when the discharge strikes the skin it is broken into branches somewhat like what is known as the *brush discharges*, and that the blood in the capillaries under those branching lines becomes coagulated, producing the arborescent like figures.

Notes.

PLAIN SKIES.—Ward Muir, writing in *The Photographic News*, says: "In the Alps the blue sky looks (to the eye) darker than the white snow; in Egypt the blue sky looks darker than the glaring yellow sand; in Italy the blue sky looks darker than the white walls of the buildings. These countries are noted for their cloudless heavens. Photographs taken in these countries, therefore, would—at least, might be—correct with a plain sky. The presence of clouds, in fact, indicates that the weather was bad when the view was taken; and to put a mass of clouds into a scene which contains shadows obviously caused by brilliant sunshine (which would be unlikely to occur on a cloudy day) is not merely a waste of time, but an indication of a lack of artistic instinct. Personally, I have found that the best way to render a typical Swiss, Italian, or Egyptian sky is (after printing) to withdraw the print from the frame and fog its sky portion a little, shielding the landscape portion with a card. If the landscape has an uneven sky-line, a better plan, of course, is to make a print, and then cut out the edge of the landscape along the sky-line with a sharp pair of scissors. Using this as a mask over the landscape, the sky can be darkened right up to the edges to whatever depth is deemed desirable."

PHOTOGRAPHY AND SACRED SUBJECTS.—We have more than once expressed a doubt as to the propriety of attempting to represent sacred subjects by photography, and no doubt at all when they include divinity, and hence, have pleasure in reproducing part of a criticism of Holland Day's "Seven Last Words," by M. Louis Bordat, in *La Photographie Francaise*: "If it pretends to represent divinity, it is absolutely necessary that the work should be divine in character. Perhaps the artist may lack sufficient deep religious feeling. Perhaps the model was incapable of conveying with sufficient power and elevation the expressions that were sought. But, in any case, the result is far below the level of the subject selected. In the last picture, 'It Is Finished,' the head of Christ literally bolts away into the frame. Why is this? A person very well disposed towards the exhibitors of the new school replied in answer to my question: 'Why? Because it is finished. The subject vanishes with the last word.' The excessive indulgence displayed by the excuse dumbfounded me! Be this as it may, does it not recall the somewhat legendary picture of 'The Crossing of the Red Sea by the Egyptians in Pursuit of the Israelites.' There was no sea, because it had retired for the miraculous crossing. No Israelites, because they had already crossed. As for the

Egyptians, they were coming. In fact, the canvas was bare, the sky in Egypt being so luminous that it is devoid of color—a fact well known to all. Instead of showing a head of Christ vanishing from the frame, Mr. Holland Day might have left the frame empty.”

DESICCATED PLATES AND HALATION.—Howard Farmer, in a paper read before the Royal Photographic Society, maintains that desiccated plates, that is, plates from which practically every trace of moisture had been removed by heat, give negatives less likely to be affected by halation than plates not so dried. He was exploiting a method of making screen negatives for half-tone engraving directly from the subject, and said the greatest difficulty in it had been the getting of good sharp dots. They were all fuzzy through halation in the film, and gave considerable trouble even to the skilled man. The effect of desiccating the plate, if properly done, was to render a plate otherwise prone to halation as good as the best dry process plate.

We shall be glad if those of our readers who have time and opportunity for experimenting in this direction will send us confirmation of this statement, as even backing does not always prevent halation.

PRINTING STAINED NEGATIVES.—Those who have valuable negatives so stained through improper fixing or insufficient washing before immersion in the mercuric solution for intensification as to render printing impossible, will be glad to know how to overcome the difficulty. A writer in the *Photographischer Centralblatt* finds that the yellow stains, though practically opaque to the lower end of the spectrum, are transparent to, or transmit the red and orange. He, therefore, recommends the employment of a plate sensitive to the red and orange, such as Carbutt's polychromatic, for the printing by contact of a positive, using a red or orange monochromatic light, probably such as may be obtained by the flame from an alcoholic solution of the chlorides of strontium and sodium. From that positive a negative may be made by any of the ordinary methods.

PHOTOGRAPHIC PASSES.—At the Glasgow (Scotland) International Exposition the attendants' photo-passes, each bearing the portrait of the holder, instead of causing the inconvenience that was predicted, has been a very decided success. The holders go out and in at any of the many entrances without question or fear of transfer, greatly to the saving of the time of all concerned.

A NEW INTENSIFIER.—Herr Andres, of Dresden, has patented the following method of intensification, but gives it free to the world. It is said to give very beautiful transparencies, especially those of seascapes and moonlight impressions:

The negative, which must be well freed from hypo, and if it has been dried should be soaked in water, is flowed over with a mixture of the following solutions in equal parts:

A.

Potassium ferridcyanide.....	4 parts.
Distilled water.....	250 "

B.

Ferric chloride.....	4 parts.
Ammonium oxalate.....	1 "
Distilled water.....	250 "

The plates treated with this solution almost immediately assume a blue, or violet color, and only require washing and drying. The intensification is, as a rule, sufficient, and it has further the advantage of not giving such greatly increased contrasts as some of the other methods.

INK FOR WRITING ON GLASS.—A solution of equal parts of "water glass"—soda silicate, and gum arabic just thin enough to write without running, and whitened by baryta sulphate, or blackened by Chinese ink, will be found excellent for writing on glass, labelling bottles, etc.

PHOTOGRAPHIC LENSES.—We learn that the well-known optical establishment of C. P. Goerz, Berlin, recently finished its 100,000th lens—a double anastigmat, Series III, of about 24 inches equivalent focus, a wonderful output for eight years; and that to celebrate the event a holiday was given to everyone employed in the factory.

THE U. S. OF LENS MARKING.—The U. S. or universal system of diaphragm marking, introduced and strongly recommended by the Royal Photographic Society, was never a really good one, as although it included the older and better method, the focus divided by aperture, the adding thereto of the U. S. numbers frequently tended to confusion. Even the parent of the system has come to recognize its faults and, we understand, is about to officially declare for the older and simpler standard. That being so, it is matter for regret that some of our opticians continue to mark their stops and iris diaphragms with the old, and to 90 per cent. of photographers, meaningless numbers, or where they are not meaningless they are misleading, the numbers being taken for *f* values. Everyone knows, or may easily get to know the meaning of *f*/*22*, but few on seeing its U. S. equivalent, the simple "32," will recognize it as such without investigation. It is to be hoped that modern lens makers will see the error of their ways, and return to the older and better because clearer system.

THE JENA GLASS.—This glass, now so important to the optician and through him to the photographer, is an excellent illustration of the appli-

cation of science to manufacture, and an answer to the oft repeated question, "What is the good," applied to experimental investigation.

An exhibition of scientific apparatus took place in London in 1876. Among the visitors to this was Professor Abbé, of Jena, and in a report he wrote on the optical apparatus he called attention to the need for progress in the art of glass-making if the microscope was to advance, and to the necessity for obtaining glasses having a different relation between dispersion and refractive index than that found in the material at the disposal of opticians. Stokes and Harcourt had already made attempts in this direction, but with no marked success. In 1881, Abbé and Schott, at Jena, started their work. Their undertaking, they write five years later in the first catalogue of their factory, arose out of a scientific investigation into the connection between the optical properties of solid amorphous fluxes and their chemical constitution. When they began their work some six elements only entered into the composition of glass. By 1888 it had been found possible to combine with these, in quantities up to about 10 per cent., twenty-eight different elements, and the effect of each of these on the refractive index and dispersion had been measured. Thus, for example, the investigators found that by the addition of boron the ratio of the length of the blue end of the spectrum to that of the red was increased; the addition of fluorine potassium or sodium produced the opposite result. Now, in an ordinary achromatic lens of crown and flint, if the total dispersion for the two be the same, then for the flint glass the dispersion of the blue end is greater, that of the red less than for the crown; thus the image is not white, a secondary spectrum is the result. Abbé showed, as Stokes and Harcourt had shown earlier, that by combining a large proportion of boron with the flint its dispersion was made more nearly the same as that of the crown, while by replacing the silicates in the crown glass by phosphates a still better result was obtained, and by the use of three glasses three lines of the spectrum could be combined; the spectrum outstanding was a tertiary one, and much less marked than that due to the original crown and flint glass. The modern microscope became possible. The conditions to be satisfied in a photographic lens differ from those required for a microscope. Von Seidel had shown that with the ordinary flint and crown glasses the condition for achromatism and for flatness of field cannot be simultaneously satisfied. To do this we need a glass of high refractive index and low dispersive power, or vice versa; in ordinary glasses these two properties rise and fall together. By introducing barium into the crown glass a change is produced in this respect. For barium crown the refractive index is greater and the dispersive power less than for soft crown. With two such glasses, then, the field can be achromatic and flat. The wonderful success of the Bausch & Lomb new *Plastigmat* is obtained by the use of these new glasses. They have also been applied with marked success to the manufacture of the object glasses of large telescopes.

The British Convention.

THE Oxford, or the 1901 British Convention, has been a record in more senses than one, and for that there were several very good reasons. Oxford is not only so much nearer London, the home of so many photographers, than most of the previous meeting places, but it has attractions possessed by few or none; the fact that this year for the first time it was to be joined by their confreres across the channel, the Union Internationale de Photographie of France; and last, but not by any means the least, the popularity of the president-elect, Sir William Herschel, Bart., both on his own account and on account of his father's great work for photography in its earlier days.

The proceedings commenced on the evening of July 8th with a reception by the Mayor of Oxford, Mr. G. Claridge Druce, in the beautifully decorated Town Hall, which was filled with a brilliant assemblage met to do honor to the visitors. In an excellent address of welcome, the Mayor intimated that they had been granted the unusual privilege of photographing to their hearts' content in and about the precincts of the ancient and beautiful colleges, a privilege that was taken advantage of to the full during the week.

After the usual preliminaries the new president proceeded with the inaugural address. This was followed by the usual refreshments, the usual reception promenading intercourse, enlivened by the excellent music of a Hungarian band, and the entertainment of the evening concluded by the exhibition of an excellent series of lantern slides.

The sayings and doings of the following four days—the Saturday hardly counts—included photographing in and about the various colleges and the many places and buildings of interest in the city, a delightful afternoon in Worcester College gardens and the Provost's private garden, in which there were refreshments, singing by a glee party and an interesting exhibition of the results of color photography methods, including Ives', Wood's, Jolly's, etc., and the usual convention photograph taken. The annual business meeting, at which there was a good deal of mutual congratulation, Cambridge fixed on as the next place of meeting, with Sir Robert Ball, the well-known astronomer, as president; and the usual dinner, without which no body of Englishmen, or rather, Britons, can think any function complete, and at which everybody and everything is toasted. Visits by sail, rail, or other methods of transportation, at all of which cameras of all sorts and sizes were in evidence, were made to Dorchester, Abingdon, Guy's Cliff and Kenilworth, Leamington and Warwick. At the latter place The Warwick Dry Plate Co. became the hosts, providing an excellent lunch, presided over by Sir Montague Nelson.

Mental food, in the shape of three lectures, was supplied in the evenings. Mr. Turner, Oxford professor of astronomy, holding forth on "The Relation of Photography to Astronomy"; Dr. Moritz von Rohr, on "Depth of Field and Perspective," and Mr. G. Watmough Webster on "Seeing, Not Believing." Taking it all in all, the Oxford Convention was a very decided success in every respect, and will stand out as one of the milestones in the convention's progress.

The Element of Composition.

BY LUCIUS W. HITCHCOCK.*

IT is evident to a *discriminating* observer that the old-fashioned, purely mechanical photograph, I mean simply the work of a machine, is doomed to disappear. Not but what one still finds such displayed in glass cases in all our large cities as well as in the country towns where the crayon portrait flourishes, but one is also glad to notice the work of men who are really artistic, men who do something more than simply push the button.

No one is more astonished or pleased at the progress you have made than the painters. As your work grows more *refined* and *artistic* you are cultivating the popular taste in the right direction. The art of photography has done much for that of painting. The animal painters were struggling in the dark until the camera came to their assistance, revealing to them the real movements of animals. Photography, like painting, has its limitations, but one can help the other, and they should go hand in hand. I have had many a hint from the camera, and I should be pleased if, on this occasion, I can impart a few hints on composition in return.

What you have already done along the lines of artistic work, beyond the mere representation of nature, has been remarkably artistic, and promises much for the future. It seems to me that the technical side of your profession has been carried almost to perfection. Your new papers of various kinds are capable of giving the most *tender* and plastic qualities. Your lenses are becoming more perfect every day, and you, who use them, seem to be keeping pace.

If a picture is beautiful it must be good in one or all of three things: color, composition and drawing. Your work as yet is limited to monotones. As for drawing, the camera is the greatest draughtsman in the world. So in pictorial photography your problem is largely a matter of composition or arrangement.

I shall endeavor in this paper to give you the principles that govern composition and the reasons for them, when there are any, but in the broad field of art one can only give theories on which to work; for the essence of art is *originality*, and not a thing to be labeled with any one's rubber stamp. If there is one thing that Art *abhors* more than another, it is dogma; so that, in what I shall have to say, consider it rather as a principle *along which* you may struggle toward the light, than a set of rules or receipts *by which* to make a picture. Let me be frank in the start. If you do not *feel* the thing, and do not have it in you, your progress will be doubtful, for Art is not so cold a thing that it can be handed around like a recipe for doughnuts. It can come only from the soul, whether the instrument of its expression be a camera or a brush.

Composition is the art of arranging the objects to be depicted so that the eye shall be gracefully *led into* the picture and centered upon the *important* thing; or it shall be such a combination of spaces, so varied with light and dark, as to make a decorative whole.

* Address before Photographers' Association of America, Detroit, 1901.

Variation, you must know, is the key-note of good composition. The skillful variation of space, light and color, or *light and dark*, covers the entire field. This scheme of variation is born of nature itself. It governs every beautiful thing in the world, and has its culmination in the *human* figure. For instance, take the arm. The upper arm is heavy and stout; the forearm is longer and more slender; the hand is of another form, with fingers of varied lengths, each finger with three joints of a different length, tapering to the end. The vegetable kingdom is constructed on the same plan—a tree, with its limbs of varied length and thickness, tapering to the leaves, whose veinings repeat the construction of the whole.

I wish to make this principle of variation and its relation to Art as clear as possible, so I shall start from first principles—the variation of flat spaces as applied to decorative design.

Arthur Dow in his little book on "Elementary Composition" makes an attempt to show that the *essential* quality of *any* composition is its *decorative* value, making the realistic representation of secondary importance. He redraws several masterpieces in their *big* masses of light and dark, omitting all detail, to prove his statement. In other words, he claims a picture should be beautiful, from the *mere* arrangement of light and dark within a given space, *regardless* of what it represents, and he carries the same principles that govern flat decorative design into picture composition itself, and his examples of the principles of space variation are so vivid and clear that I shall give you in a rough way some of them.

Mr. Dow commences with the idea that pictorial art is a space art. First of all, the filling of a flat space; in putting anything into it, the *variation* of spaces should be the first consideration of composition, whether it is a design or a picture.

If we place an object in the center, we have no variation at all, as all the spaces between it and its borders are equal. He will take, for instance, a simple square, and show how much more beautiful it is when broken up into *varied* spaces than when *like* spaces are used. The square, to begin with, is not so attractive a space to put a picture into, because its sides are not varied; hence monotonous.

Fancy the square broken up into equal spaces, like a checker-board, without the ordinary variation of dark and light, and we can scarcely conceive a more monotonous figure. It has no beauty or artistic value whatever. Now, on the other hand, let us take the same square and break it into varied spaces, still using straight lines, and still going directly from one side to the other. At once art appears, and we have something interesting. In both cases the design was limited to the square and straight lines in two directions.

Now carry the variations still further, and use varied lengths and widths of lines, and your combinations are more beautiful.

Add to this oblique and curved lines, with color, and we have all the elements that go to make a beautiful Persian rug.

The rectangle with its unequal sides, one being longer than the other, will for that reason lend itself more readily to a greater and more pleasing variety of spaces. Consequently it is a more interesting shape for a picture or a design.

These same principles can be observed in a beautiful tower, a fine old sideboard, or the façade of a building.

This may seem a little remote from the subject of composition, but I shall endeavor to show you how these very rules are directly applicable to the composition of a picture.

It very often happens that the principal masses of your picture are rectangular in form. If you have a subject that takes in a doorway, buildings, tables, chairs, etc., the placing of these rectangles, one within the other, will play a large part in the composition of your picture; and they should be so placed in relation to one another and to the picture boundary as to give the most pleasing variation of space. Very often you will discover you can greatly improve a picture by trimming it in a different way. This is something you have already known, no doubt, and you probably have already noticed that your picture looks best when trimmed to give the greatest variety of spaces.

It is often true that the same subject may be photographed in several different ways, all of them good, by simply playing upon different combinations of spaces. A certain judgment, however, must be used in preserving balance as well as in getting variety. If the principle of variation is carried beyond reason, to extremes, the sense of balance and proportion is destroyed. These are things you must feel in order to do successfully. No one can teach you.

I want to warn you against making an infallible rule for this scheme of arrangement. You will discover that art is far worse than English grammar. You no sooner get a rule than you are told there are many exceptions to it. For instance, you have been told to get the *greatest possible variety* in your spaces; but there is another kind of composition, of a more conventional type, in which the repetition of a form or space gives dignity and effect. Numbers are dignified and effective when they are not monotonous. But even conventional composition is simply another form of variation. Like figures side by side, or like figures or forms on either side of a common center, though in themselves monotonous, give variety and contrast to the individual figures or forms that are in the same composition.

Up to this point I have talked about the variation of *space* only—important as far as it goes, but only one-third of the problem of composition.

I now wish to speak of the variation of the line, of its peculiar kind of beauty and why it is so. Take a straight line. It certainly is not artistic. Nature knows that, for she will have none of them. Take varied combinations of a *straight* line. These are more beautiful, and are capable of good geometrical design.

Now let us take the arc or circle. As a line it is still more beautiful, but it has no variation, and is monotonous, like the other.

Now, take the *variation* of the curve, and you have the most beautiful single line one can draw, the compound curve, or S. line. It is this S. line that plays such an important part in composition. Not that we see the line actually drawn in the picture, but we feel the *sweep* and *grace* of it running through the entire arrangement.

I don't like to be dogmatic, especially about that which applies to Art, but in a perfect composition, the point of view should be presumably from the center of the picture, in front; and the eye should be drawn *into* the pictures, describing a graceful S. line as it goes from one point of interest to another, until it ends in the distance.

One does not *actually see* a curved line in the picture, you understand, but the eye, in passing from one thing to another, is led in the path of a curve. This S. line is the main-spring of good composition. You will observe its softening influence over angles in Nature. She artfully rounds them over or softens them by adjacent lines, and you will do well to take a lesson from the human figure, as it combines all the essentials in the beautiful variation of line as well as mass and color. So in passing let us take a look at it.

The ugly and repulsive angles of the skeleton are softened and made beautiful by the soft, flowing, compound curved lines of the muscles that cover them.

We have discovered that the curve is more beautiful than the angle, but the curve often needs the abrupt strength of the angle, to show off its more subtle charm. However, the curve must be the *important* line, and you can always manipulate your lights and darks with your accessories so as to soften any angular abruptness.

Sometimes an angle is so obtrusive that it is expedient to cover it up entirely; but straight lines and angles give a certain strength and make a good contrast to the S. line, as well as a variation of it. In fact, you must constantly keep the thought of variation before you. One quality will beautify another, while if like qualities are used we have monotony.

We have considered the variation of *space* and *line*. We will now consider the variation of *color* and *light* and *dark*, the manipulation of which has more to do with the *poetry* and *feeling* of a picture than *any* of the other elements of composition.

I shall speak of *color*, as the term is used by illustrators, meaning richness of black and white. The two extremes of your palette are black and white, something you must appreciate from the beginning and use discriminatingly. They are your last trumps. Don't play them too quickly. If you are very lavish of one or the other, or both, all over the picture, you have nothing left for the accent, or the effective touch. Be willing to sacrifice certain things for the beautifying of something else. Now, black and white are naturally most effective together, and if you will carefully keep both of these extremes, that is, pure black and pure white, out of the bulk of the picture, saving them for the important place, where you can bring them into strong, sharp contrast together, you will discover how effective they are. Too much black in a picture takes the atmosphere out of it. Pure black is local color and is not transparent. If you can photograph the air between your lens and what is a dead black background in Nature, it will not come out quite black in the picture, and consequently will not take the force out of whatever black accents you may have in the middle distance.

This abuse of black and white is a common defect in the ordinary photograph, due, no doubt, to the inability of the camera to render accurately color values.

By the variation of your lights and darks you can do most anything you wish. You can place the interest where you please, soften some lines, bring out others, and aid the ordinary lines of perspective in making the picture's depth more effective.

I should like to speak of depth as a quality, not apart from spacing, line and color, but rather a very beautiful result to be had by the skillful use of them all.

Simply straight, single point perspective is stiff, of course, though all lines that lead *into* a picture are good. Take a railroad and telegraph wires. Here we have simple geometrical depth, and to a certain extent the effect is pleasing, but the lines are long and unbroken, with no variation, and consequently monotonous. It isn't what one would call picturesque, as it would be if the lines were broken and the light and dark masses so varied as to draw the eye *into* the picture along a pleasant swaying line, bringing the strongest contrast into the middle distance. Never put the strong contrast into the immediate foreground of your picture. It is far more effective in the middle distance, attracting the eye at once and giving a sense of depth that is very pleasing. This is a common trick of most illustrators.

Another way of getting depth is to contrast the planes of your picture with light and dark. A shadow thrown over the foreground will concentrate the interest more definitely on the principal object under full light in the middle distance. Often the principal group, treated in dark silhouette against simple light in the plane beyond, will increase the depth of the picture. Cloud shadows will often make very pleasing combinations this way, giving a sense of greater depth as one line of distance is silhouetted in light or dark against the plane beyond. Placing several planes of perspective with different vanishing points, one behind the other, is also an effective way of getting a beautiful sweep and a sense of great depth, but in doing this great care should be used in keeping the interest *in the picture*, and not allowing the lines of the first plane to run abruptly *out of the picture*. It can be avoided by skillfully using your accessories or parts of the picture itself, to turn the line back into the picture.

I should like to say, right here, of your picture the same thing that William Morris says about your home, "Have nothing in it that is not either useful, or that you believe to be beautiful." The accessories of a composition have no business there unless they fill a space, carry out a line, or help to tell the story. Don't put things around unless they have a definite purpose. Don't put everything you have in the studio in the picture. Nothing is more stupid than that. Everything in the picture should be for some purpose of composition, and anything in excess of this only detracts the attention from the principal point of interest. Professor Loeffts of Munich said, when something was wrong with his picture and he couldn't make up his mind what it was, that he *took out* something on general principles—a *safe rule for anyone* to follow.

In figure compositions you must utilize the beautiful lines of the figure itself, so arranging one figure with another as to carry out the graceful line of each, and the articles of apparel and details must be so arranged as to complete and beautify these lines. The smallest thing is often

enough to give direction to a line and carry out a beautiful sweep, even to the falling of a bit of lace and the arrangement of the hair. If you will study the compositions of Gerome, Aimee Morot and Meissonier, you will discover this to be true.

Compositions, like fortunes, are made by looking after the little things as well as the big, but this does not mean that you must see all the detail you can. As a rule the camera sees too much, and you must arrange your subject and manipulate your lights so as to overcome this. If one plane of your picture has a great deal of detail in it, be sure the plane it relieves against is simple. The eye must have a place to rest as well as to feast. As Hunt says, "Don't blister your picture all over with facts." Try to make your pictures more suggestive and less literal. I have seen photographers purposely make negatives a little out of focus to accomplish this, but I have never seen an interesting result from this sort of treatment. Things are then monotonously vague, which is monotony just the same, and no improvement over a photograph that is too hard.

I should like to say a word about the general tone and feeling in pictures. You have heard it said that a picture is good because it stands out. This is a great fallacy. Your picture, rather, should stand *in*, and be enveloped in the atmosphere. Make a point of always photographing the air as well as the subject. The intense realism of a photograph is its only vulgarity. As I said before, make them more suggestive and less literal. Remember that Art is something more than mere copying of what we see in front of us. Realism itself is vulgar, and belongs to the same class of art that one finds in Mrs. Jarley's Wax Works, or the ambitious framer who defaces a beautiful picture of a lion's head by placing real bars into the frame, to represent the cage, with a padlock on the outside.

If you can sacrifice by the use of your screens what the painter purposely ignores, the artistic qualities of your photograph will be greatly improved. The trouble is, the camera sees too much, and sees everything equally well. The artist with the camera *stays* its seeing powers for the unimportant details, and by this sacrifice makes the important things tell the more.

As Hunt says, "All notes in music are not high. There must be low tones as well. Put in only such details as will help the masses. Don't have your work all trills."

Before I stop I want to give you a little hint as between artists. Get your impressions from nature and don't try to manufacture them in cold blood. Art is largely a matter of seeing. It is the same old story of a young student starting out with his sketching outfit and walking four miles to find something to paint, and the master doing beautiful things in his back yard. Not that everything is beautiful and worth painting, for it isn't, but there are lots of beautiful things that you will pass every day because you have not the eyes to see them.

Keep on the alert for beautiful combinations and arrangements all the time. You are just as apt to see them in the street cars as anywhere else, and if you store up a reserve of souvenirs of this sort you will do more original and better pictures. It is far better than copying what another fellow sees and does before you.

Practical Chemistry for Professional Photographers.

BY MILTON B. PUNNET.*

PART I.

A CALM consideration of the extent of the subject upon which I was to address you showed me the absurdity of trying to produce within the space of one brief address anything which would do justice to the subject and yet prove acceptable; I have therefore tried to produce something somewhat along the original lines intended, but which I hope and think will be more instructive and interesting.

THE PLATE.

The photographer may justly consider the dry plates as the beginning of all photo chemical manipulations.

The dry plate of to-day is glass, which is a transparent chemically inert substance, coated with a film of gelatine containing varying proportions of silver bromide and silver iodide. The silver bromide may be considered the chief constituent. The gelatine, which is a species of refined glue, besides its binding qualities also acts as a sensitizer in furthering the action of the light.

Very often one will hear the remark made that this or that plate is rich or poor in silver, and I would like to remark right here that within workable limits it is impossible to say as to the amount of silver salts in a plate without making a chemical analysis.

The density of an image obtainable on a plate is no proof of the amount of silver a plate contains, for, on a plate containing twice as much silver as another, it may be possible to obtain an image of only one-half the strength.

The difference is attributable to a difference in the molecular condition of the silver salts in the plate.

The action of light on a dry plate is a much disputed point among chemists.

Some claim that it causes the oxygen, which is always present, to unite with the silver salts. Others claim that it causes a partial decomposition of the silver salts, the released bromine uniting with the gelatine, leaving a silver sub-bromide which contains half as much bromine as the original silver bromide.

The action of the developer may be considered as a continuation of the light action resulting in a reduction of the silver salts, affected by the light, to metallic silver or compounds of silver, the released bromine going into the developer.

INERTIA OF A PLATE.

The subject of the effect of light on a plate brings one to the consideration of a property of a plate not generally recognized by the present day photographers, but well known to the old wet plate workers. I refer to what is sometimes called the "inertia of a plate." The term refers to the amount of light to which a normal dry plate can be exposed to before a developable impression is made. As an example: if it requires the expen-

* Address delivered before Photographers' Association of America, Detroit, Aug. 8, 1901.

diture of 101 pounds of force to move a stone and 100 pounds is applied, no visible effect is produced, but the moment the extra 1 pound is applied the stone would be moved. I had practical illustration of this phenomenon in some trouble a photographer was experiencing.

The trouble consisted in the appearance of a comet shaped marking, lighter than the surrounding image, on some of his negatives. The head of the comet was about the size of the top of my little finger, otherwise the negatives were good and practically free from fog. Investigation showed that it was caused by the light passing through the plate and being reflected back from the shiny black surface of the inside back of the plate holder. When the spring of the plate-holder rested against the plate the latter was protected from the effects of surrounding parts, hence that part was not so dense.

Many of the old wet plate workers when they wished to increase the speed of their plate would give them a quick exposure to white light, thus bringing them into a condition where a much shorter exposure was necessary to produce an image.

REVERSAL OF THE IMAGE.

There is another property of the action of light on a dry plate which at first glance might be pronounced detrimental, but which in reality in many cases is very beneficial. I refer to what is termed "Reversal of the Image." As you all know, if a plate is exposed beyond a certain length of time, the image instead of becoming denser in the high lights begins to grow thinner. Reversal of the image is beneficial in that it gives us a means of equalizing the immense difference which generally exists between the intensities of the light in the high lights and shadows of a picture.

The rule "Expose for the shadows and let the high lights take care of themselves" is founded on this property.

If the opacities of a negative were proportioned to the amount of light which caused them, there would be such a difference between the strengths of the high lights and shadows it would be impossible to reproduce them on any of the printing mediums in present use.

DEVELOPMENT.

A developing solution ready to use contains chemicals which can be classified under three headings, viz.:

Reducers, Preservatives and Accelerators.

A Reducer may be considered as an element or substance which, acting on a compound substance, will abstract from the compound substance part or all of a certain element or elements in the combination leaving a substance containing less of the element or elements abstracted or leaving a simple element.

This definition would not pass muster in a text book of chemistry, but it will answer our purpose.

Experiment.—I have here a solution of mercuric bichloride sometimes used in intensifying a negative! When I introduce this cleaned copper cent the mercury is reduced and deposited on the cent and an equivalent amount of copper has gone into the solution as copper chloride. In this case the copper was the reducing agent.

A Preservative is something that protects the reducing agent from

what may be termed outside influence, allowing it to expend itself in the proper direction.

An Accelerator is something that aids the reducing agency in performing its work.

It is characteristic of the reducing agents used in photography that they have a great tendency to unite with oxygen.

All are acquainted with the fact that pyro metol and similar compounds soon darken and become useless if in a solution without a preservative.

Preservatives have also either an affinity for oxygen or else they protect the reducing agent by lessening its affinity for oxygen.

Sodium sulphite is an example of the first class and oxalic acid of the second class.

It is a characteristic of all accelerators used in connection with organic reducers that they have an alkaline reaction.

Of late years the number of organic reducing agents have so multiplied that a discussion of them and their relation to each other would be beyond the limits of this address.

Regarding the action and the value of the many reducing agents I was much struck by the remarks of Mr. Alfred Watkins on the subject.

Mr. Watkins, who is without doubt the best informed man of the present day on the subject, says: "In a paper read before the Royal Photographic Society I described a comparison of seven developers, namely: pyro, metol, ortol, adurol, hydroquinine, kachin and glycin. All were made up with the same formula (no bromide) and compared under the same circumstances. The result may be summed up:

"Effect on speed of plate, very slight and doubtful difference.

"Searching out detail, no difference.

"Ultimate density power, no difference.

"Appearance of image, wide difference.

"Speed of working, wide difference.

"There is one respect in which developers differ. One class of developers (represented by metol, rodinal and weak pyro) causes all the tones to appear very early in the course of development, and density seems to follow with comparative slowness. This class has the reputation of giving thin negatives because users are deceived by the rapid appearance of image and take the plate out too soon. In the second class of developers (represented by hydroquinone [quinol], strong pyro, and adurol) the lowest tones or detail appear slowly and by the time they are put out the high lights have attained quite a respectable amount of density, and density is afterwards attained quite rapidly.

"It really does not matter which developer you use if you take the plate out of it at the right stage of contrast; for all (variations in bromide excepted) give identical negatives if their action is stopped at the right moment. For general purposes it is more convenient to use a developer which is neither in the first class or the second, but intermediate, density following the appearance of the image at a comfortable rate. It is a peculiarity of pyro that it belongs to the first or the second class according to the grains of pyro to the ounce of developer."

(To be continued.)

Photographers' Association of America.

TWENTY-FIRST ANNUAL CONVENTION HELD AT DETROIT, MICH., AUGUST 6TH
TO 9TH, 1901.

Through the kindness of the Secretary, Mr. J. George Nussbaumer, we have been supplied with a complete report of the convention, for which we extend to him our thanks.

It had been announced that this was to be an educational convention, and the award of prizes for photographs exhibited was to be abolished. Judging from the character of the papers presented and read we think the announcement was fulfilled.

The convention assembled in the basement of the Light Guard Armory, about 11 o'clock, August 6th, and was opened by President Core. Former presidents on the platform were Clarence M. Hays, Detroit; Fitz W. Guerin, St. Louis; E. Decker, Cleveland; W. H. Potter, Indianapolis; and G. Cramer, of St. Louis. Mr. J. F. Ryder, of Cleveland, was subsequently invited by telegram and appeared on the platform with Jex Bardwell and other veteran photographers.

The exhibits were arranged on the upper floor.

The convention was welcomed to Detroit in an appropriate address by the Mayor of Detroit, Mr. W. C. Maybury, which was responded to by President Gore. He called upon Mr. W. I. Scandlin, who read an interesting paper on "Victor Prevost, Artist, Chemist; a New Chapter in the Early History of Photography in This Country." He read a letter from a descendant of Prevost, and spoke of his grave as being unmarked, suggesting that the association cause a suitable tombstone to be placed.

He also gave an entertaining talk, illustrated by lantern slides, from old negatives made by Mr. Bardwell and others. Some were of many historical places in New York City, and were greatly enjoyed.

Following Mr. Scandlin, Mr. Pirie McDonald made an address on "Character Studies of a Few of My Friends Among the Old Masters," in which he described Raphael and his works, Michael Angelo (Michael Buonarroti), his surroundings and where he did his best work; Rubens, his early associations and work; Van Dyck, a pupil or

successor to Rubens. During the day President E. B. Gore delivered an opening address, and alluded to the change that had occurred within the past ten years; how artistic treatment in photography had superseded posing rightly and chemical effects. He called attention to the present unsatisfactory condition of the copyright law, and suggested that the members of the association unite in using their influence to remedy the defects.

He urged that an effort be made to improve the annual exhibitions, and alluded to the splendid collection on exhibition of reproductions of old masters loaned by the Messrs. Brown and Berlin Photograph companies.

On the second day of the convention the matter of having the 1903 convention held at St. Louis, at the St. Louis Exposition of that year, was discussed, and while no formal action was taken, it was the general feeling that it would be held at that place. The suggestion was also made that a special building, devoted exclusively to photography and exhibits, in the form of a camera, be constructed, which will no doubt be carried out.

The reports of the secretary and treasurer showed that the association was in good financial standing:

TREASURER'S REPORT.

Cash on hand, January 1, 1900..	\$1,201.43
Received in membership and dues	2,771.00
Space and desks.....	1,602.50
Refund from G. B. Speery.....	.90
	<hr/>
	\$5,577.83
Total cash for 1900.....	5,577.83
Paid in vouchers from 173 to 330 inclusive	2,471.05
	<hr/>
Balance—cash on hand....	\$3,106.78

SECRETARY'S REPORT.

Cash on hand, January 1st, 1900..	\$1,201.43
Received for desk and space...	1,602.50
Received for dues.....	34.00
Bills receivable	107.50
Paid treasurer	1,636.50
A nominating committee was appointed.	

ed: W. H. Potter, chairman, Indianapolis, Ind.; John Snyder, Columbus, O.; Frank Moor, Atlanta, Ga.; Wm. Armstrong, Boston, Mass.; C. M. Hayes, Mich.

Mr. W. M. Hollinger, of New York, made an interesting address, which was followed by Prof. A. H. Griffith on "Pictures That Live," in his usual pleasant and instructive way.

After these addresses trolley excursions were taken, and local excursions to Lake St. Clair, under the invitation of the General Aristo Company.

During the third day of the convention President Core called attention to the historical exhibit of old daguerreotype apparatus loaned by Prof. Laudy, of Columbia University, New York.

The nominating committee reported a ticket, but when the voting occurred it was changed a little, resulting in the following names: President, George M. Edmondson, Cleveland, Ohio; first vice-president, J. George Nussbaumer, of Buffalo, N. Y.; second vice-president, Henry S. Klein, of Milwaukee, Wis.; secretary, C. R. Reeves, Anderson, Ind.

It was also decided that the convention of 1902 should be held at Buffalo, New York.

Mr. F. Dudas Todd, editor of *The Beacon*, read an entertaining address on "My Experience in Twelve Studios." There was also an instructive paper presented by Milton B. Punnet, of Lewiston, Me., on "Practical Chemistry for Professional Photographers," part of which appears elsewhere.

On the fourth and last day of the convention resolutions of thanks were passed to the people of Detroit for their kindness and courtesies. Other honorary votes were given to several of the well-known veterans.

Mr. R. P. Bellsmith presented President Core with a beautiful gold bronze clock on behalf of a few friends as an appreciation in tangible form for his kind services to the association. The president duly expressed his thanks.

The matter of copyright recommendations was proposed by Mr. Wilson, editor of *Wilson's Magazine*, and a committee was authorized to formulate suggestions. The president thought if members would bring the matter to the attention of Congressmen in their districts it would be of advantage.

Mr. Morris B. Parkinson, of Boston, spoke of the "Lens and Brush" Club in

Boston, where photographs were submitted for criticism, which proved to be very helpful. Some of their exhibits were shown at the convention. He read an amusing poem on "Retouching."

Prof. L. W. Hitchcock's address on "The Elements of Composition," which will be found elsewhere, was most instructive. He also entertained the convention with running criticisms on pictures that were presented. Prof. A. H. Griffith lectured on "How to Manage a Gallery," in his usual entertaining style, concluding with some sound advice on "Specializing," which we give below:

Specializing.

BY PROF. A. H. GRIFFITH.

Find your specialty. Do not scatter all over the territory. If you make baby pictures, make baby pictures for everything there is in it. Do not let Core have it all. He has no right to those things that you have not. I were making baby pictures, I would make Core hustle, or die trying! If you want to make genre pictures, do not let Guerin make them all; he has no monopoly of it; but find out what you can do. One of the brightest men of this country, J. H. Dolph, spent years painting pictures of pages standing at the palace door; if you look upstairs in the Russell House you will find some of his work in the mediæval line which is marvelously well painted. But people would not buy those pictures. He came back, went on a New England farm, and thought he would idealize country life. But we are not old enough here yet for that. An Irishman said to me one day something like that. It was in the old country, and he had been telling stories of banshees, ghosts, and all that sort of thing; told me his mother had seen a little debil sitting in the middle of the road. I remarked to him that it was very strange, but we did not have those things in America. He said, "Of course not, the country is too damn young!" It is true, we have nothing of the peculiar charm that hangs about country life in the older countries. We cannot idealize our pictures of such subjects here, and make them so the people want them. So Dolph, in his last extremity, went to an auction house and said, "Will you sell some pictures for me?" And he gathered up all his sketches and pictures and sent them to the auction room. Among other things he had a beautiful

frame for which he had paid some ten or fifteen dollars. But he had nothing to put in it. As he stood studying what to do about it, thinking how badly he needed the money that frame represented, there came in a cat, and playfully jumped through the opening in the frame. Ah! There is my subject. And he quickly painted in a cat's head upon a little piece of canvas. He went down to the auction to watch the sale of his pictures that he had labored over for months, and saw them go for a song. His heart went down with a sigh. He wondered whether he would get enough money to pay only a part of the bills that were due. Everything went that way until they came to this cat picture, and after starting at \$5 it went up \$10, \$15, \$20, on and on, up to \$87.50. Dolph started off with that great big head of his full of business. "By the eternal! If they want cats," he said, "I will paint cats!" (Applause.) To-day he lives in a magnificent palace on the Hudson, N. Y., and it was paid for out of cats! He has painted them until we all love those cats by Dolph. And he, too, has learned to love them; they have made money for him. We all see pictures through different eyes, different temperaments. One makes a picture and says it means certain things to him; another finds a different meaning in it. It is like girls. I do not want the girl you like, and you are perfectly willing I should have the girl you don't like. You see her through a different temperament, different eyes. It is fortunate that things are so, because we can be happy with those that we select, as our friends and associates. In the same way with a picture. One man paints blue, another purple, another the golden light of the evening. A Dutch woman said to me once when she was asked what color she wanted the roof, to paint it red, because she could not see pink. There are a number of people in the world like that.

Remember all the time to stay away from the highest light and the deepest shade, because it is in between those that you should work. If I am to make a speech I try to think of something to cap the climax with. I do not give the climax until the last. Then I want something to leave with the people. Pictures are the loop-holes of the soul. You can do without them if your soul is small enough. There are a lot of people for whom a teacup would be large enough;

but another woman or man wants the whole broad earth to take them in; and they want to take in the earth. That reminds me of a woman who sold some shot, and having no scales she measured the shot in a pint cup, because, she said, a pint is a pound the world over. She measured everything by the one small measure. The world is full of souls that are just that small; but there are not many among photographers. At least, I have not found them. (Applause.) It is the great big souls that you want, the people who can see something in that old man's face, and that old woman's face, in the young girl's face, in the child's face; that can see something in nature that is worthy of preservation in a picture that people will stop and turn around to look upon, and look, and look again. We go into a gallery and out of a hundred pictures we remember three or four. I remember in going through a gallery at Munich a picture of two little girls. I think I have spoken of it before—two little girls standing on the bank of a stream, their wooden shoes cast off. They have gathered a mass of dandelions, which are scattered like a golden shower all about their feet. The older child has made a chain of dandelion quills, and placed it about the other's throat, and she is drawing her up to her by this chain until she can press her lips to hers. My eyes filled with tears, because I remembered two little sisters seven thousand miles away.

People stand in admiration before that wonderful piece by David of Napoleon the First, although there is nothing but the head and hat in it. That was a marvelous man, with all his faults. That statesman, that financier, that soldier, that patriot, that man who could grasp ideas, looks out at you and fascinates you, appeals to you, and you admire the magnificent face. We express what we are. If you are a miser your lips come together, your fingers clutch. If you see the little wrinkles coming here, for God's sake do not touch them out. But when they come here touch them out, for they are the mark of a sour, crabbed disposition. You want to flatter by taking them out, and he will think you are a jolly good fellow, and he will leave you with the feeling; but you are keeping one hand on the pocket-book where the dollars are, while you shake hands with the other.

Our Portfolio.

Communications for the editors, pictures for criticism (only one print at a time) and apparatus and material for examination, should be sent to Dr. John Nicol, Tioga Centre, N. Y.

1288. A. G. GRAFF.—“The Milkmaid” is an example of very good photography and faulty arrangement. A girl with a stiffly starched head-dress that would be crushed out of shape against the cow’s side at the first impact, and carrying, in lieu of the milking pail a covered pail something like that in which she might carry her school luncheon, and that had come from the grocer with four pounds of lard. Her expression, or rather want of expression, is equally at fault, conveying, as it does, and does very clearly, the feeling that she is standing to be photographed. You aim high, but success in such a difficult phase of photography cannot be attained without more training than the model has got, and more careful thought than has been given to this. You should, in such a subject, aim at action rather than repose, and be especially careful that what may be called the accessories are in keeping; that is, of the right kind. It is often the little thing or things that may seem little that tell. See page 398.

1289. MRS. G. H. FOSTER.—“After Dinner” is a very good picture ruined by eccentric mounting, and ruined to such an extent that our first impulse was to throw it where bad pictures go. An excellently posed figure is in the act of lighting the after-dinner cigar, the lighting, and very good it is, being, or supposed to be, from the match, and although almost in profile the concentration of attention to keep it aglow till the desire is accomplished and the confidence that he will succeed is admirably expressed. See page 394.

But the mount is simply exasperating. A $5\frac{1}{2} \times 5\frac{1}{2}$ dark rough card with a 3×3 “sunk in,” placed at an angle so that each of its four straight edges is in line with one of the corners, and the picture, surrounded by a white line, placed in that.

1290. F. E. FOSTER.—“On Fishing Bent,” a well selected part of a road through the foliage, on one side of which is seen a glimpse of water, the probable scene of the operations of the young disciple of Izaak Walton, who, rod in hand, forms the objective point of the composition. See page 396.

It is a fine subject finely photographed, but with one serious fault—a too large expanse of sky that tends to take and keep the eye from the lower and principal part of the picture. We may have too much of even a good thing, and the sky here is good, although a shade too light. The trimming off of an inch from the top would be a decided improvement. Nor do we see why it should have been made an oval instead of the more usual, and certainly in this case, more suitable rectangular. In that form, trimmed as suggested, and with the sky a shade darker, “On Fishing Bent” would have been a charming little picture.

1291. W. H. BLACAR.—In the unnamed print you have a good subject from a bad view point. Bridges are like buildings, in so far that they are rarely picturesque when photographed “straight on,” and this is no exception. The parallel horizontal lines, repeating the bridge itself, are suggestive of the mechanical, and the suggestion is intensified by the position of the two trees, one on each side, and the apparently equal mass of matter under each. As it is, if you will cover an inch and a quarter of the matter on the right you will *feel* that you have a better composition; and by including only all that is left and placing the camera a little to the left of its original position, especially if you make it upright, you will have a very much finer picture. See page 400.

1292. W. H. STANCHFIELD.—“A Winter Morning.” Two children shovelling snow from the doorsteps with a background of hardly anything but straight lines could hardly be made either interesting or picturesque, and here it is neither except to those to whom the little ones belong. The exposure is still too short, as you may see from a little examination. The shadows are still lacking in detail, although not so much as in the print previously noticed, and to get what there is development has been forced till the lights are all equally white—over developed in fact. Longer exposure, or, what is the same thing, a lens with a larger aperture and the same exposure, would have enabled you to secure the necessary shadow detail before

the lower shades in the snow and other whites, including the faces of the children, became, in the negative, quite opaque. As we have said again and again, the only way to secure true values, that is a correct rendering of the various degrees of luminosity, is to give sufficient exposure.

1293. F. C. SHELDON.—Please read the heading of the column and you will see why we notice only one of your prints. In "Attention," a man holding a horse by the bridle, you have probably the very worst possible example of posing. Not content with standing stiff as a wooden figure and staring into the camera himself, he does his best to make the horse as stiff and as staring; and what is if possible worse, the quadruped has only three visible legs; both telling unmistakably that they are standing to be photographed. The photography is also at fault, there being hardly anything but one tone of grey. You must learn to develop for contrast and to carry it far enough, the negative of this being much too weak.

1294. HERBERT F. SMITH.—The unnamed print, a woodland scene, is an excellent selection that might easily have been better photographed. The lighting is probably at its best, but its action has been stopped too soon, resulting in values so false as to give a sky, wherever it is seen, of white paper, and to scatter points of white all over the foreground and middle distance. A minor fault is the similarity of two froglike figures forming a disturbing element for which there is no compensation nor any possible or at least evident excuse for their introduction. An upright, excluding all on the left up to the head of the inner figure, would have been a very much better composition and a fine example of the beauty of simplicity, and sufficient exposure would have given truer value. We reproduce it as we think it ought to be trimmed, page 393.

1295. DR. A. J. GARESCHIE.—"Just before the Storm" is a fairly effective piece of cloudland with a vessel in "bare poles" on an ineffective sea. By ineffective we mean that there is really no suggestion of the sea as we know it, nothing to suggest even water except the ship, nor on its surface the faintest suggestion of the luminous clouds from which it has its light. But between the sea and sky there is a beautiful effect of distant mist-hidden mountains that is

charming, although there is nothing either in it or elsewhere to suggest an approaching storm. The ship, had the sails been merely furled, might have done it, but we cannot imagine a skipper expecting to meet and manage in a storm without showing an inch of canvas. We may add that pictures of this class, depending as they do mainly on the sky for their value, should have more attention to cloud arrangement than this has evidently got. They are not so picturesquely massed as with waiting they might have been, and they are almost unnatural in their contrast in white and black, so that practically the whole is only redeemed from failure by the atmosphere and the mountains. See page 395.

1296. CLYDE COX.—"My Time Will Come," an aged horse tied to a hitching post, is an excellent photograph, and could, with a little more thought, have been made an equally good picture. The pose of the horse is good, and the way he holds his head and the dreamy expression of his eye may easily lead to the belief that some such idea as is conveyed by the title is passing through his mind. But the obtrusive picket fence is inimical to pictorial effect. Without the fence and in a corner of a field untied he might have been regarded as a pensioner waiting for the call that comes to all. The printing also, or rather the toning, needs more care; the print has a yellowish faded appearance, but is otherwise very good.

1297. EDGAR WELLS.—"The Old Ferry" is a fine subject probably from the best available point of view, although it would have been better, if possible, not to have the road leading so into the very centre of the composition. The definition is also hardly as good as in such small work it should be, but the most serious fault is the under exposure resulting in nothing but white and black where neither should have been. The sky, seen through the trees in patches, is simply white paper, as is also the water wherever direct light falls; while everything in shadow, even with such forced development, is simply black. See page 401. See append to "Typical Letter" in our list.

1298. W. E. BYRNE.—"Homeward" is not a picturesque subject, although probably the best has been made of it. It is too complicated, too many points all of more or less interest and neither of

which are in any way connected with or lead to the main object, the figure. And they are made all the more pronounced by the too great contrast, the white and black resulting from a too short exposure. A figure like the palmers of old, including the long staff, wanders along a rugged road that winds through a partially cleared hilly country toward what appears to be a home in the distance; while a leafless tree placed unfortunately in the very centre, and a number of stumps cut at varying lengths from the ground, seem to suggest something like the return of the prodigal after suffering many of the ills to which the wanderer is heir. A simpler composition would have been more effective, and when you print in skies see that they are far less pronounced, and especially that no part is so high in tone as white paper. Perfectly black branches against a perfectly white sky cannot now be tolerated, and nothing short of sufficient exposure will prevent it. See page 392.

1299. CHAS. YOUNG.—"The Narrows" is a striking example of a lost opportunity. A mountain gorge filled with a charming arrangement of winding road, rail and water that, if properly photographed, even as a mere "record of fact," could have been made a beautiful picture. Under exposure, however, has resulted in little else than midnight blackness and a roadway of almost unaltered paper; and what makes it all the worse is a sky, probably printed in, of brilliant white clouds. We have no information as to the conditions under which the negative was made, but it looks exactly as if a yellow screen or color filter had been employed with an exposure of only one-fourth of what was required; and most certainly four times the exposure with proper development would have given a very much better photograph.

1300. JAMES THOMSON.—"The Heart Bowed Down." The more we study this the less we like it. The $2\frac{1}{2}$ in. head confined to 5×4 print handicaps it at the outset, and the "straining" of the lens gives an unpleasant coarseness, the beard, for example, suggesting stubble more than hair. The pose and arrangement are fairly satisfactory, although the tips of the fingers on which the head leans are not so suggestive of supplying the needed support as would have been the more usually employed palm. The downcast expression is also well as-

sumed, but the lighting and exposure that results in the blackest and whitest of "soot and whitewash" is unfortunate. A lesser but still serious fault is the absorption of the head in the background as if the figure had been cut out and pasted on, and as parts of the latter and the whole of the former are equally black the effect is far from satisfactory. The conditions under which this was made required a means of reflecting light on what are now the deepest of darks so as to represent them as only in the shade, and a much longer exposure. In arranging and lighting such a pose see that there is sufficient light, reflected or otherwise, on the darker side, and expose for that, leaving the better lighted side to take care of itself; and do not expect to make even a *passable* $2\frac{1}{2}$ in. head with the lens usually fitted into a 5×4 camera. See page 399.

1302. F. E. BRONSON.—"The Song of the Sock." Comparisons are (generally) odious, but this is so much like Sir Vere Gould's "Little Housewife," No. 1265, reproduced in our last, that this much must be said at least, the former could not have been inspired by the latter, the song of the sock having been received by us before the little housewife appeared.

Like the little housewife, the song of the sock is good in aim and satisfactory in arrangement, and it is like it also in having a disturbing element; not the curtain but the back of the chair, and it so asserts itself as to attract and hold the eye to the exclusion of everything else. An equally serious fault is the utter absence of light in the shadows. So black indeed is every part of the whole composition in which direct light did not fall that it is as if photographed in a totally dark room and the figure and chair back only illuminated by a contracted limelight. Such lighting is neither pictorial nor natural. In trying again, suppress the chair, employ a reflector sufficiently to indicate the nature of the background and light up the shadows, and give an exposure sufficient to impress that light and you will have what this is not, a good picture. Please understand that we have no fault to find with your scheme of bold broad lighting, but only with the absolute blackness of the shadows and the suggestion of utter darkness in the room, a darkness as deep as ever was the testing room of a gas-works, and women do not darn socks in such apartments. See page 397.

1303. HERMAN DOERNER.—"The Old Chestnut Tree." The foreground a part of a road, at the side of which and in the centre of the print an attractive looking house partly hidden by the trunk and lower branches of the old and what must have been before the top was broken off, large chestnut, might have been of interest as a "record of fact" if properly photographed. The exposure, however, has been so short that to get what slight detail there is in some of the shadows development has been pushed till part of the road is as white as if covered with snow, the sky is simply white paper, and the poor old chestnut, trunk branches and leaves, are one uniform black.

1304. REV. CHARLES TOWNSEND.—"Drawing the Net" is a bromide en-

largement from a small negative that, as a picture, leaves little to be desired. A fisherman stands in the wet sand in which he is partly reflected, and close to the living rolling surf, hauling in the net, and with one exception, everything combines to give the desired impression. But the shutter has been sprung just at the wrong moment. The hauling in is hard work, and after a heavy pull the body comes for a moment to rest, the muscles lose their tension and for the moment cease to convey the feeling of action, giving instead the idea of posing for his picture. A second or two earlier or later would have made all the difference. We congratulate you, however, on having aimed high and come very close to success. See frontispiece.

Our Table.

Books for review and apparatus and material for examination and report should be sent to Dr. John Nicol, Tioga Centre, N. Y.

THE BROMIDE MONTHLY. New York: *The Rotograph Co.*—There comes to our table the first number of a little but neatly got up magazine, issued in the interest of the Rotograph paper, that has recently achieved such popularity; although, according to its introductory note, it has been given "life and being" as a record of progress in "bromide photography" generally.

In addition to the introductory, this number contains articles on enlarging, toning and intensifying bromide prints and mailing cards, and a notice of a competition in which cash prizes to the value of \$500 will be awarded.

We heartily welcome the little magazine, as there is ample room for a well-conducted journal on the lines it lays down for itself, and if it is not well conducted it will not be for want of editors there being not less than three engaged on it, Drs. Meyers and Statius and Juan C. Abel.

* * *

THE PHOTO-MINIATURE for July deals with "Seashore Photography" more fully and, we think, more satisfactorily,

than ever it was before dealt with. While we write we are within earshot of the surf and most of our time during past and future weeks has been and shall be spent amid just such scenes as are here portrayed, and doing such work as is here described and illustrated, and with the experience that many seasons spent in the same way brings, we say that, with two exceptions, we homologate every sentence in the little but thoroughly reliable book.

The exceptions are: First, the recommendation to place the camera on the tripod so that the focussing glass shall be over *one* of its legs instead of, as generally recommended, between two of them, with the lens over the third. How the author can find comfort in straddling over the single leg and using it in that confined position for levelling and otherwise adjusting the image on the ground glass we cannot imagine, especially when the other and more usual way is so much simpler and easier. The leg in front being free to move to any extent in any direction can by a single touch place the camera in any desired position. The other and far more serious statement is

to the effect that "it is almost impossible with an ordinary lens and shutter to under expose." If the author could see some, indeed many of the "marines," that come to "Our Portfolio" he would change his opinion. Waves with crests white as paper can be, troughs of perfect blackness, yellow sand and white foam of equal whiteness, and adjoining masses of rock white wherever direct light has fallen and shadows dark as midnight. Oh, yes, it is quite possible, and what is more, quite common, to under expose even seascapes, especially

when they include anything more than the sea, a fact that is abundantly proved by more than one of the illustrations in the monogram itself. Contrast "Sea and Sky," the values of which are almost perfect, with "Seashore Puddlers" or the print opposite page 159, both of which owe their false values to under exposure, or perhaps rather to the forced development the under exposure led to. In spite of that, however, the July *Photo-Miniature* should be the close companion of every one who aims at seaside photography.

Bausch & Lomb Plastigmat Contest.

ON account of the fact that the first Plastigmat lens was sold on March 22, 1901, and entry for the competition was only open from May 25th to July 20th, the time for pictures to be made and entered was necessarily very brief. However, a large number of pictures of a high standard were submitted by earnest workers. We reproduce the two winning pictures by courtesy of Messrs. Bausch & Lomb. Following is the judges' award:

"We award the first prize of \$100 for the best picture made with Plastigmat f-6.8, to Myra Albert Wiggins, Salem, Oregon; the second prize of \$50 to

Harry 'Contant, New York; special honorable mention to Oliver Lippincott, Los Angeles, Cal.; honorable mention to L. F. Deardorf, Chicago, Ill.; honorable mention to W. J. Topley, Ottawa, Can. It gives us pleasure to commend, almost without exception, all of the exhibits in this competition and to note the superiority of the work as a whole over that of other similar contests which we have judged, in which the highest grade lenses were used.

"JOHN E. DUMONT,

"HARVEY ELLIS,

"Judges.

"Rochester, N. Y., July 29, 1901."

Answers to Correspondents.

Correspondents are requested to notice that communications intended for the editors should be address to Dr. John Nicol, Tioga Centre, N. Y.

H. W. GILLET.—It is quite true that if you "look closely" at the picture (the frontispiece of our July Number) you may come to the conclusion that the figure was posed before a painted background and standing on a carpet, but such pictures are not intended to be "closely looked at," nor is it of any consequence where or under what conditions the exposure was made. The aim of the author was to convey a certain impression and he was more than fairly successful.

We adhere to the statement in the criticism on page 294, "women do not usually lean alone beside a river without their hats," and we equally homologate your assertion that they do not stroll in the house with hat on head and parasol in hand,—but the impression sought to be conveyed, and conveyed successfully, was that the figure in question was strolling outside in the open, and it was as that that the picture was criticised. We thank you heartily, however, for your letter and only wish that more of

our readers would follow your good example and write whenever they think they catch us napping. We are quite as anxious to learn as we are willing to teach.

G. W. TERROT.—(1) They are both bluffing you. In selling the right to photograph the church from the street the rector sold what was not his own, and you are within your right in photographing it even although you place your tripod exactly where your neighbor's stood. (2) He did not and could not copyright the view, only his own reproduction of it; and so you may photograph it and sell as many copies as you please.

T. W. MORTON.—Your proposal to make lenses of slightly tinted glass with a view to secure equality of illumination is not new. It was first suggested some forty years by R. H. Bow of Edinburgh, Scotland, and has been proposed several times since, but so far as we know, has never been tried.

MARY WILKINSON.—Do you not think it a little unreasonable to ask our opinion of the print to be sent privately because you only see the magazine occasionally, and might miss the copy containing the criticism? We like to oblige, but that is a little too much.

H. L. THOMAS.—"Yellow stains beginning about the middle of the negative and getting stronger toward one corner" are the result of insufficient fixing, too short time in the hypo solution, and cannot be removed by any method known to us. The plate should be left in the fixing solution after it has become transparent at least half as long as it took to make it so.

T. C. BAXTER.—We never add alum to the fixing solution and should discard any brand of plate that needed it; indeed we do not employ alum for any purpose except hardening the finished carbon print. Your other question should be sent to a law journal.

M. PALMER.—We have answered this question a dozen times. The negative belongs to you, but only as the type employed by a printer in executing a job for a customer, and you have no right to use it for any other purpose without the consent of the person for whose portrait it was made. In the case to which your customer alludes, and where the photographer had to give up the negative, it was made clear that he charged

separately for making the negative and for the prints.

C. P. CARTER.—Don't be discouraged because you cannot get a first-class lens, as that is no reason why you should not do first-class work. As fine pictures have been made with a single lens costing considerably under five dollars as ever were made with the best anastigmat at fifty times as much. As we have said again and again, for pictorial purposes the most important feature of a lens is its focal length. One of the best pictures that has come to Our Portfolio during the current volume, a $6\frac{1}{2} \times 4\frac{1}{4}$, was made with a single lens of 14 inches focus that cost, unmounted, \$2.50, and was fitted to the camera by a home-made paper tube.

REX.—See answer to C. P. Carter, but at the same time, as you say money is no object, we strongly advise you to select one of the anastigmat family of not less than ten inches equivalent focus. If you will tell us more fully about the kind of work you intend to do we shall advise you privately as to the most suitable.

MAUDE DUNCAN.—You may overcome your inability to judge distance by a very little practice. Fasten two laths together in the form of a V, with, say, three feet between the open ends. Fix your eye on any particular object on the ground—the best way is to throw a stone, and after guessing how far it is from you, pace the distance with the gauge. Repeat the guessing and pacing, half an hour at a time, for several days, and you will be able ever after to judge within a permissible error.

PERSEVERANCE.—We can only repeat what we said before: You cannot get true stereoscopic effect with two prints from the same negative; and your letter instead of "convincing us of our error," shows us that your *optician* (is he not merely a *dealer* in optical apparatus?) knows as little of the subject as you.

H. L. WALTERS.—We have no means of testing lenses here, but if you send it to Tioga Centre, N. Y., any time after September 20th we shall be glad to examine it. The air bubble does not in the least lessen its value, nor will the chip at the edge if it is filled with any black cement. A fair price for a second-hand lens in perfect order is about two-thirds of that at which it is listed.

OCT 14 1901

"LIFE ON THE FARM."
BY
DR G W FREDRICK

No. 137.

THE
AMERICAN AMATEUR PHOTOGRAPHER.

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NO. 10.

The Nude in Photography.

WE think it is time, indeed has long ago been time that some one whose word has weight, should speak with no uncertain sound about the Nude in Photography. Should set forth its causation if he can find it, search out its emotional reasons, and place in the discriminating balance its influence for good and evil.

We willingly admit its study as an essential branch of the education of the artist from whose brush we hope to get the highest ideals of the draped figure in all possible attitudes of action and repose; and we can sympathize with those whose souls are stirred to loftiest thought as they gaze on Michael Angelo's "Night," or Raphael's "Creation of Eve"; but between those Heaven-born artists and even the best photographer there is "a great gulf fixed." Equally great and equally impassable is the distance between the idealized nude of the artist, that is, when it is worthy of the name, and the "record of fact," the merely naked of the photographer. The one stirs up the best that is in human nature, drawing forth its God-like qualities and filling the mind with veneration for the power which called such beauty into being, while the other degrades him to the level of the animals to whose tastes it panders.

But it is easier to feel the difference between the creation of the master whose soul is filled with the poetry to which his hands have given expression, the true nude, the influence of which is only for good; and the naked, however beautiful, of the photographer. It may be, as we cannot always control our thoughts or shut out the inferences they lead to; that the thought of the conditions under which the picture was produced,—the mental picture of what was before the camera, forces itself on the

retina of the mind to the exclusion of higher and holier feelings. Or it may be the shortcomings of the too faithfully copied model as compared with the observer's ideal gathered from the perfections of many included in one. But whatever the cause, the fact is undeniable that the effect on the majority of people, the cultured as well as the uncultured, is the same, and the sooner

No. 1308.*

By H. W. Schonewoolf.
"WAITING."

photographers who have been misled into essaying the impossible realize that impossibility the better it will be for photography.

He who photographs the nude doubtless works for fame rather than gain; but if, when he has done his best and secured admission into one of the exhibitions, he will stand beside it and watch the expressions and listen to the observations of the passing crowd, he will learn that there are at least two kinds of fame and that he is getting one that he does not covet.

Certain photographic publications and literary magazines, whose editors we should have credited with better taste, make a practise of publishing these examples of "naked" photographs. The makers of these pictures are hungering for notoriety. It gratifies their vanity to see their names in print under a picture that is certain to excite comment. Pandering to the taste of sordid minds is not elevating or enlightening the ideals and aspirations of the public, and is certainly not beneficial to the cause of photography.

Who then will "come over and help us?" It is a crying evil well worthy of the pen of a ready writer, and he who will, by putting the matter in its true light, remove the naked from the front of the camera shall have earned the gratitude of every true lover of photography.

* 1308. H. W. SCHONEWOOLF - "Waiting," with sufficient exposure and proper arrangement of the figure, might have been a very attractive picture. A rustic bridge crossing a stream, a bend of the tree lined road, and a figure supposed to be waiting for an expected "somebody." But the exposure has been so much too short that bridge and brook are white paper, while the road beyond and the trees are as black as paper can be made. Then the figure, instead of "waiting" with the tension and expression necessary to convey that impression, is stiffly standing to be photographed, and staring into the camera. A lesser but still serious fault is the apparent false perspective, the bridge and the figure being vastly out of proportion with the more distant objects, arising from the employment of a lens of too short focus.

Figures in Landscape.

BY FLORENCE L'ESTRANGE.

WHILE it goes without saying, that a landscape with figures is infinitely more interesting than one without, it is equally patent to those who care to look that a large majority of those who have them, are spoiled or made worthless by their introduction.

Figures may be objectionable for three reasons, first, because they were not needed, second, because they were unsuitable, and third, because of being in the wrong place. It is easier to *feel* than to describe just the kind of landscape into which the introduction of figures would be an impertinence, although landscapes so spoiled are far more numerous than those that are not. There can be no doubt, however, that when we desire to convey some idea of the effect produced on us by the dawn or the close of the day; the ocean in its placid mood or with its irresistible waves breaking on a rock-bound coast; the clustered pillars and grand

"FEEDING THE FLOCK."

By W. C. Hill.

aisles of a noble cathedral, or its not less noble prototype, the older forest, we feel that the introduction of figures of any kind and into any place would be an unpardonable sin.

Quite as unfortunate is the introduction of unsuitable figures even into pictures and places where figures are required. I have seen a town-bred lady in a tailor-made dress masquerading as a milkmaid and sitting on the wrong side of the cow; while her equally town-bred and town-dressed male companion was quite as much out of place in pretending to swing the scythe. Nor is it the dress only in such cases that leads to failure. The artist may secure the genuine article, but he can not infuse into them an intelligent interest in his work. If he would succeed he must follow the example of the late H. P. Robinson, who trained his models and took to the field a basket filled with such costumes as were likely to be required.

No. 1312 * By Frank E. Foster.
"HIDE AND SEEK."

But be the models ever so well-trained, and the costumes ever so suitable, success depends on their being properly placed, and no law can be laid down for that. Some of the text books have been silly enough to recommend the making of lines on the ground glass, dividing it into squares and saying into which figures should and should not be placed, as if picture making was a thing of mathematics and geometry; ignorant apparently of the fact that in a hundred different subjects there may be no two in which the best or even the suitable places are alike.

Each subject must be dealt with on its own merits and its own requirements. The first question should be as to the necessity for figures, and if it does not appear that they would be a decided improvement they

* 1312. FRANK E. FOSTER.—"Hide and Seek" is a pretty fancy, trimmed to the best advantage, and needing only a different lighting and a little more of it to be a little gem. In consequence of having been altogether lighted from the front the tree trunk wants roundness, and there is a flatness all over, a want of contrast of light and shade suggesting weakness rather than strength, while from a too short exposure development has been forced till the sky and what should have been lower lights are simply white paper.

should be left out, their introduction under any circumstances being, as the editors have often said, "risky." The next consideration is as to whether it is to be a landscape with figures, or figures with landscape; whether the figures are to be merely accessory to the *motif*, to emphasize suggestion, give strength to a part otherwise weak, or throw back one that is too much in front; or whether the figures themselves are the objective point, and the landscape merely accessory to them.

In either case the figures must be suitable and suitably employed. In nine cases out of ten, they should be in action rather than in repose, and above all, should never stare into the camera or seem conscious of being photographed. With untrained models all this is barely possible, and even those that are trained do not always, or indeed, often find it easy. Robinson, who had large experience in this class of work, recommends the making of several sham exposures previous to the real one, as he found that his models, even those that had been his companions for years, were apt, in their desire to play their parts well, to get excited, but that the excitement wore off with the novelty after the first few false snaps of the shutter or removals of the cap.

In landscape with figures, the figures, while subservient, must have a reason for their being there, and while their connection with that which is the *motif* of the picture should be obvious they should not be so pronounced as to

No. 1313 *

By F. E. Bronson

"WAITING."

* 1313. F. E. BRONSON - "Waiting." It is easier to say that we do not like this than to give the reason why. The more we study it the more we feel that the pose is artificial, and therefore unnatural. The straight line of the left arm unpleasantly repeats the line of the body, and the cushion on which the right arm rests is both awkward and distracting. Offensive too are the horizontal bars of the window, the eye feeling that they should have been level instead of at such an angle, and the interior is still far too dark to appear natural. A suitable reflector would have given the necessary light to the dark places, but only better posing and greater simplicity would make a good picture.

attract special attention. They may be so placed as to guide the eye to the objective point of the composition, and may be entering or leaving, but should never without some very good reason be in the center. Just where to place the figures should be made a special study for each picture. As has been often said, one good picture is worth a thousand of even average photographs; and fame may be gained and retained by one or two such in the year. Here again Robinson's example may be followed with advantage. He thought out the subject of a picture at home; selected a suitable scene for its development and studied it on the ground, taking the models with him and placing them here and there till the arrangement seemed satisfactory. Then, and only then was the camera brought into use, and a negative or several negatives made to serve as studies. Rough prints were made and cut out figures placed here and there; and only after he was thoroughly satisfied was the final negative; or when composite printing was intended, several negatives made.

In the case of figures with landscape everything is reversed. Here the figure or figures form both the *motif* and the objective point, and the landscape may be little more than a background; although the more intimately it is connected with them and the more helpful in producing the desired impression, the better will be the picture.

But when all is said and done the average photographer will be no nearer picture making unless he has it within him. All that he can get from even the best teacher are a few hints, mainly as to certain things that it is better to avoid; and he must learn to see with the eye of an artist before he can convey his impressions to others. Not until he has learned that a picture is something more than a "holding of the mirror up to nature," and how to make it so will he be entitled to consider himself an artist.

Practical Hints on Carbon Printing.

BY A. T. NEWTON.

NOTWITHSTANDING all that has appeared in this and other magazines on the beauty and simplicity of carbon as a printing method it has not reached the popularity that it deserves. For this there are various reasons, and as we are always glad of anything that will help the tyro out of his troubles we gladly extract the following from *The British Journal of Photography*:

There is little doubt that carbon is the most beautiful of all printing

No. 1310.*

"THE COUNTRY SCHOOL TEACHER."

By Helen L. Griswold.

* 1310. HELEN L. GRISWOLD.—"The Country School Teacher" Our first impression on seeing this was that you had been just a little too impressionistic, nor is the impression removed on further acquaintance. But while there may be difference of opinion as to that, there can be none as to its success in its line. A misty morning in winter, too misty for the sun to break through or do more than produce the well known and beautiful luminous haze in which objects are suggested rather than depicted; a winding country road covered with snow through which the school teacher trudges on her way to the work of the day, and a blending of middle distance and sky so that we cannot see where the one ends and the other begins, and into which we feel that the teacher will soon disappear, are so reproduced as to make a really fine picture. We shall try to have it reproduced, but fear the engraver will find it difficult.

processes, and also that whenever a beginner in photography, or one who for the first time sees a carbon print developed, that moment he becomes impressed with the operation to such an extent that he makes up his mind to try his hand and overcome the delightful process. For a long time there existed an idea among amateur workers that the difficulties of sensitizing and drying carbon tissue were so great that the process was not one well suited for occasional use; but was more particularly adapted for professional printers. In a certain sense it must be admitted there is much truth in this statement, for no matter how beautiful and simple the process may appear to a novice, there is without doubt a vast amount of knowledge required in carbon work that can only be acquired by hard practical experience. As a rule, however, the obstacles to success in its practice do not merely lie in the sensitizing and drying of the tissue, as many suppose, but are rather found in what may be termed as "broadcast over the entire process," and it is when some failure crops up which to a

No. 1316.*

"CYPRESS CREEK, LA."

By L. F. Marbury.

* 1316. L. F. MARRBURY.—"Cypress Creek" is one of those disappointing subjects that in nature seems just the thing to make a fine picture, but when photographed turns out a perfect jumble of objects without *motif* objective point or suggestion of any kind, so that when once seen we do not care to see it again. It is simply a record of a very confused fact, without attempt to accentuate any particular part or object, or convey any idea beyond what appears on the surface; and the light has been so nearly vertical as to produce shade only below such objects as are horizontal, and, from a too short exposure, they are simply blackened paper. Such complex compositions are rarely satisfactory, and rarer still can a good picture be made with a bridge made to run in a horizontal line across it.

Try again, excluding the inclining tree on the right and all beyond it, and from a point that will place the entrance to the bridge in the foreground. Accentuate some particular part or something that shall be suggestive, and subdue and make contributive all else.

No. 1315.*

"GRANDMA'S TREASURES."

By C. E. Soderstrom.

novice in carbon work appears unaccountable, that he begins to realize the fact that the process, after all, is not quite so easy and certain of accomplishment, as many are at first inclined to believe. Although it cannot be said that the process is not one suited to the amateur worker, it is nevertheless equally true that there are such individuals in this world who are known as "carbon experts" that possess a vast amount of knowledge of this process that they have only learned by the closest application and experience, and which they take care to conceal and keep up their sleeves. This knowledge, however, generally consists in what may be termed "details of manipulation." The broad theory of the process is well known, but in the working of the carbon process it will be found that one ounce of practice is worth a ton of theory. In saying that any one can sensitize their own tissue quite as well at home as any of the large firms who make a specialty of supplying the tissue can do is perhaps not going too far, but in order to enable this being done the knowledge of how to do it is naturally implied, and this knowledge is not generally imparted in all its bearings to the public, either in the handbooks which treat on carbon work, or by those who earn their bread and cheese at it.

Take, for instance, the professional photographer who sensitizes his own tissue when required for some particular job that crops up. Here

* 1315. C. E. SODERSTROM.—"Grandma's Treasures" is a quaint conceit suggesting much more than appears at a first glance. The treasures are a young "tiger" cat, a pair of spectacles, and the "well thumbed Bible," a trio that tell a story or suggest a series of thoughts varying according to the temperament of the beholder; and that might form a text for an excellent sermon. From a technical point of view, while the photography is good, the base on which the treasures rest and the background might have been better, as they are just indicated enough to force us to keep on trying to make out what they are.

we have a case where there is no need for any keeping qualities being provided in the tissue, for as soon as it is dry it is utilized in the printing frame. On the other hand, with an amateur worker it may be a considerable time will elapse before circumstances permit of his using up the tissue after its being sensitized, and although any amateur can so sensitize his tissue as to permit of its being kept (if properly stored) in good condition for a week, as a general rule, precautions are not taken at the time with this end in view. The main factor in sensitizing carbon tissue so as to provide for its non-deterioration rapidly lies in the precaution of seeing that the sensitizing bath is sufficiently

By E. L. Martin.

"O'ER HILL AND DALE."

alkaline to turn red litmus paper blue, and so storing the tissue in an air-tight receptacle as will protect it from atmospheric influences, for it is well-known to old carbon workers that, by exposing sensitized tissue to a damp atmosphere for an hour or two, its sensitiveness becomes increased, at the same time its keeping qualities become impaired. Then, again, much that has been given to the public in relation to the sensitizing bath was written during the early days of collodion, and these formulæ have been handed down and copied from time to time up to the present date as if the same were quite as applicable to a gelatine negative as to a collodion film. Speaking generally, when sensitizing tissue for use with a gelatine negative, the usual strength of one to twenty is much too strong for summer use, whilst in providing for transparency work a very weak bath should be employed. In the drying of the tissue it is well known that if too much time is occupied it becomes insoluble, whilst, on the other hand, if too rapidly performed reticulation sets in. Carbon workers know the value of paying particular attention to this important stage of the operation, and take care to see that the atmospheric conditions with regard to heat and moisture are

suitable. It may, however, be stated that any well-ventilated room can be utilized for drying the sensitized tissue, where the temperature and other conditions permit of the drying being performed in about five hours. Another important element (too seldom given attention to in carbon work) is the temperature of the printing and developing room, as well as the idea that any makeshift arrangement will do for developing. To do this work properly the utmost system should be provided, and it is just here where an expert carbon worker shines to advantage, for by keeping his hand in he knows in a moment just what is required, and does it, and seldom resorts to the extremes a novice will adopt, such as increasing the temperature of the water in developing, when a more prolonged application of the same at a lower temperature will gain the desired end. Of the numberless dodges in carbon work performed at the development stage, perhaps one of the most useful lies in the ease with which an expert worker is enabled to increase his high lights locally without reducing the entire image. Most hand-books on carbon work give particulars how to intensify a weak carbon image, and here we have another instance of one writer copying another's production; but, as far as the writer is aware, the little dodge of how to increase or strengthen a high light in itself has never been made public in any handbook yet produced. Take, for instance, a case of development in which a portrait subject is printed in opal. By some slight overlook in printing, or it may be a general weak-

ness in the negative, the picture on development appears somewhat flat, and such parts as white lace draperies appear muddy. After all that can be accomplished by means of local development has been resorted to, an expert worker knows the value of a broad or finely pointed sable pencil. With these invaluable little tools in his hand he proceeds to touch up the high lights when the image is quite wet and fresh from the developing tank, and in a minute or two the most charming high lights are introduced by merely locally reducing the pigments by the springy stiff-pointed sable brush, and thus brings out a charming effect, which otherwise would be impossible of accomplishment. This little dodge is simply invaluable in cases where printing has been carried rather far, or a lack of contrast existed in the negative.

There is no doubt that the chief pitfall in carbon work, so far as the same affects a beginner, lies in the difficulty known as double transfer from a flexible support, and this difficulty alone has prevented thousands of amateur workers from regularly working this delightful process. The transference of an image from a rigid temporary support to a flexible one is easily performed. It is when the image has to be transferred from a flexible support to a rigid temporary one as a final support that failures may often occur. Hence the recommendation to employ reversed negatives where the latter operation has to be performed. Flexible supports are made use of by expert workers, and in their hands seldom give trouble; but it must be borne in mind they work with an amount of experience and under conditions that an amateur or novice seldom possesses. The preparation of the support and the care bestowed upon the drying of the developed image in its different stages, along with the perfect condition of all the materials employed, are the sole factors which enable double-transfer work to be successfully performed, and it is just about ten to one that any novice attempting double-transfer work without the necessary experience and proper facilities for performing the same is sure to come to grief in this operation, and therefore it is well at the very outset that such realize the fact that double-transfer work from flexible to rigid final supports is not easy of accomplishment, and is just a case in point requiring special knowledge by expert workers. On the other hand, there is no reason why any beginner should stumble seriously over double-transfer when such is performed from a rigid to a flexible support, and after some experience in this he will find himself gradually picking up information that can only be learned by practice until he may be able to tackle the more difficult operation of transferring the carbon image from a temporary flexible support to a rigid final one. It may be said at once that the sheet-anchor for a novice in double-transfer lies in the employ-

ment of a good sample of enamel collodion as an intermediate stripping film. This is applied to any suitable rigid support, such as a polished sheet of plate-glass, or opal, or zinc. For a beginner opal is perhaps the most suitable, as it enables the operation of development to be more easily followed. Of course, where collodion is employed as a stripping medium the surface of the temporary support must be prepared by means of French chalk in the case of glass, or waxing solution where matt surfaces are concerned, and provision must likewise be made for the edges of the support preventing the collodion film from frilling or slipping during development. This is easily provided by means of a band of albumen being run round the edges of the support with the aid of a camel's-hair brush.

There is, however, a little dodge sometimes available, in which an or-

PHOTOGRAPHED WITH REAR SYSTEM ONLY OF PLASTIGMAT F 6.8, BY HARRY COUTANT,
NEW YORK CAMERA CLUB.
(Bausch & Lomb Plastigmat Contest Picture)

CANADIAN PACIFIC EXPRESS TRAIN RUNNING 55 MILES PER HOUR (ORIGINAL WAS TWICE THIS SIZE).
BY W. J. TOPIEV, WITH PLASTIGMAT P. 6.8.
(Bausch & Lomb Plastigmat Contest Picture.)

dinary negative may be made to yield a true image picture by means of single transfer only. To effect this simple operation the carbon image is developed as if for single transfer only on a sheet of absolutely flawless glass, such as patent plate. The surface of the glass receives a thin coating of gelatine, in which is incorporated a small portion of chrome alum. This may be termed a substratum only in contradistinction to a film. When applied to the surface of the glass the same is exposed to the light until quite dry. This causes the invisible substratum to become insoluble, but permits of the carbon image adhering to its surface during the operation of development with great tenacity. The image is developed in the ordinary way, and when examined through the glass, of course, appears in its true or non-reversed position. It therefore only remains to apply some suitable backing to the carbon image, whereby the high lights and half-tones are made to appear in proper form, thus yielding one of the most permanent pictures possible of accomplishment, and many exhibition pictures where double-transfer and reversed negatives were not available have been produced by this means, and it is quite surprising more attention is not bestowed upon this simple method of producing true carbon images by means of single-transfer only. In carbon work, no doubt, the obtaining of reversed negatives for special pur-

poses plays an important part, and where large numbers of proofs are required from one negative or subject it is perhaps the most practical means of undertaking such work. The production of reversed negatives for carbon work calls for no special remark; there are so many different methods that may be employed, and which are well known, that an operator can choose the one he is best acquainted with. This may mean producing a reversed negative of the same size exactly by placing a sensitive gelatino-bromide plate in contact with the negative, and printing a reversed negative by development straight-away. This is quite a practical method to employ without employing a transparency at all, the latter only being required in cases where reduction or enlargement is required. The main factor to success in carbon work in all its branches lies in the one word "application," or being regularly in touch with it, and having all necessary apparatus for its proper performance. All makeshift arrangements lead to failure.

Clouds in the Carbon and Ozotype Processes.

THE making of cloud negatives is an important matter, but when the negative is made, one-half only of the difficulties have been overcome. Carbon workers need not be told how very difficult it is to print first from the landscape and then from the cloud negative—differing widely as they probably do in density—and to obtain not only exact register, but just that depth of printing with each by which development becomes automatic. A trifle overprinted, and the clouds become lowering and heavy; a little under-printed, and they develop away before the landscape is cleared.

In ozotype, with its visible image, the difficulties are not quite so great, but even with it we have found it desirable to employ an artifice we first used with the older process. A description of the method as applied in the ordinary carbon process will simplify the instructions for ozotype.

Let the landscape print be made and developed in the ordinary way, and allowed to dry thoroughly and harden. The cloud negative should then be fitted in a suitable frame, the landscape print may be placed behind it, the level of the horizon marked, and masks adjusted. It is well, in addition, slightly to vignette the lower edge, so that no hard line shall be found. A print is now to be made upon a sheet of tissue for the clouds; the exposure should be distinctly on the side of under-exposure. The line of the horizon is marked on the back of the tissue, which is then

squeezed on top of the finished landscape print. It is desirable that the lower edge of the tissue, where the print overlaps the landscape, should be trimmed at the last moment, as the action of the air and moisture on the exposed edge has a tendency to harden it, and a line might be found difficult to remove by development. Development should take place at first with tepid water only, as the lightly printed image is easily dissolved.

When the general tone of the sky has been reached, the clouds overlapping upon the landscape—if such overlapping has taken place notwithstanding all care in vignetting—can be removed in one of two ways.

While the print lies in tepid water, a camel-hair mop may be used. As soon as the brush enters the water, the hairs will spread out, and by bringing it gently in contact with the parts to be softened they are easily removed.

A better way, and one by which the tint overlapping masses of trees or buildings may be removed, is to make up a wash bottle with a tin can. Both tubes should be fitted with indiarubber tubes; that which is to be blown into may terminate with a fairly wide glass pipe, which can be gripped tightly between the lips. The other tube should end in a short length of glass tube brought to a fine point. The tin wash bottle can be filled with hot water, and may be stood conveniently over a spirit lamp or Bunsen burner. The print is then laid upon the usual zinc or ebonite plate, and the stream of hot water directed forcibly upon it. The distance of the print from the nozzle of the pipe will enable the water to be discharged either in broad fine spray or in a thin stream. When the printing has been correctly performed, the spray need not be very hot. If over-exposure has taken place necessitating the use of hotter water, it will be desirable to cork up lightly the aperture for the mouth tube, and allow the water to be driven from the delivery tube by the force of the generating steam.

In the ozotype process the landscape print should be finished, and the sky portion resensitized with a fine-pointed brush. In this way the sensitizing solution may be applied to all intricacies of the image. After printing, if it be found that the image does overlap, these portions may be painted out with a five or ten per cent. solution of sodium sulphite, which dissolves the invisible image; or it may be left till after development, when it can be removed with the hot spray. The latter is probably the best procedure, as white junction lines are more unsightly and more difficult to deal with than slightly overlapping darks.—*Photography.*

The Tourist Photographer.

BY SIR WILLIAM ABNEY, K. C. B.

THE holiday season invariably brings out many ardent photographers. Some are content to stay at home and make pictures of those charming bits in their vicinity which on account of their familiarity are generally overlooked. Others start out to duplicate the views which the various railroads treat us with in their guide-books, and which, as a rule, can be made more pictorial and less crude than those represented. But it must be remembered that a view is not like an opera by Wagner. The latter improves and is more appreciated by repetition; the former loses all real interest after being repeated once or twice.

Man is, after all, in most cases, a creature of imitation, and the sight of a camera placed in position will incite him to place his camera in the same spot and imitate what he sees someone else has chosen as a suitable view. Or the possession of twelve dozen plates or films will incite him during a fortnight's holiday to shoot off some twelve a day in order to expose them all. We remember one well-known member of an amateur photographic club whose sole idea was to "let off" more exposures during a Saturday than any other of his colleagues, and it must be confessed he was generally successful. His was sheer greed—hurtful to himself as a would-be artist, but useful to the plate-maker. We never heard of a medal or prize being given him at any exhibition.

The tourist photographer scarcely can be said to come in the same category. He has no photographic club assembled to show him what to take and what to leave alone? He must perforce rely on his own judgment. To him a few remarks on choice of subjects may not come amiss.

We have more than once said in these pages that a young photographer should, if possible, use a Stand Camera at first. He should endeavor to see upon the ground-glass what he is going to immortalize—or spoil. The visual translation of color into monochrome can only be learnt by experience, and what may look to be an excellent composition in the finder may prove to be anything but good when the image is developed. Artifices as aids are good up to a certain extent, and at first it is quite fair to judge of a landscape by viewing it through a properly prepared blue transparent medium.

Perhaps the best for the ordinary plate is a piece of signal green glass which has been coated with a thin film of gelatine dyed with soluble blue aniline color. This gives a picture in blue, and the only mental translation required is to convert it into black. Indeed, the picture as seen

through the transparent medium would be represented as seen in a blue print taken from the negative. Such an artifice will at once tell the amateur that it is useless to attempt to get upon an ordinary plate a really satisfactory negative of distant mountains and a blue sky.

Take, for instance, such mountains as are seen from Vevey on the Lake of Geneva up the valley of the Rhone. Through the blue medium the mountains will disappear, or only be so faintly different in brightness from the sky that they will be photographically lost. Now repeat the same kind of artifice, but use a full colored orange glass, and the same mountains will stand out distinct. In the first case, the blue of the sky and the blue haze penetrate through the blue medium; in the last, both are cut off, and the intrinsic brightness of the hills stands out.

The lesson to be learnt from such an illustration is that the only plate that will be useful is a plate which can be used with a yellow screen. A stand camera will be required as a rule for such a subject, since the medium to be used will cut off most of the photographically active light. The amateur, then, should take not only ordinary, but also orthochromatic, plates for tourist work. One friend of ours uses nothing but backed orthochromatic plates abroad, and this leads to the subject of backing. Many manufacturers now issue their plates ready "backed" with a backing which is very effective and at a trifling cost. We recommend the amateur to use them so prepared. One of the most effectual ways of spoiling an otherwise good view is by the disfigurement of any dark feature in the landscape which lies against a bright sky or snow-clad mountain with halation, that is, reflection from the back of the plate. Such kind of features in a landscape may give proper pictorial composition, but if they are marred by halation they had better be left out of the picture altogether. So we repeat, use "backed" plates.

Now, a camera stand *may* be out of the question, and then the amateur has to use a hand camera, and if that be so a word must be said about it. Whatever may be the form that he elects to use, he should insist on being furnished with one of the bright view-finders, and should not be content with those images on ground-glass which makers are so fond of furnishing. It is impossible on a bright day to see more than a trace of an image on the ground-glass, and what object should be left out or left in can only be a matter of guesswork. With a bright view-finder, the brighter the day, the brighter image in it, and if the included view is the same as that which is taken by the plate, the work of arranging the picture is lessened. But the amateur should beware of those finders in which the image shifts as the eye is displaced. There are some bright finders in

which the image is stationary, and the only effect of moving the eye is to cut off part of the picture from the margin or margins of the image. Another adjunct to the hand camera, which is really indispensable, is a circular spirit level. As it is really indispensable, it is more often than not omitted from the hand camera. It should be attached to the camera—screwed on to it, in fact—and be near the finder, so that the eye can easily wander from one to the other, and a view should only be taken when the bubble is in the center of the level. Now, the horizon line of a picture will always be halfway up the plate when the camera is level, and although true perspective is thereby secured, yet pictorially such a position is, as a rule, bad. To remedy this defect, the hand camera should have a rising front, or some means by which the axis of the lens can be made to point to a spot lower or higher on the plate than the center. A stand camera is almost always made to secure this, but in the majority of hand cameras the axis of the lens always points centrally.

Why this is so is a mystery. It almost seems as if the manufacturers looked upon the amateur as a creature for using up plates and films, and in this they are possibly correct in the main, but it ought to be in the power of an earnest tyro to have a proper instrument in his hands. For mountain views, the "rising front" is really an essential if distortion is to be avoided. Then again, in the hand camera the lens should be the best procurable. It should be capable of working at F. 8 at least, as some of the best lighted and most picturesque views are to be found in the late evening, when the photographic rays are comparatively inactive. At midday, and for some two hours on each side of noon, a shutter giving an exposure of one-thirtieth of a second will with a fairly quick plate or film only require the lens to be stopped down to F. 32, so that a diaphragm of F. 8 will admit sixteen times more light—a margin which is often sufficient to secure negatives properly exposed and in focus, which F. 16 or even F. 11 would fail to secure.

Peril and Petty Annoyances of Public Life.

IN common with others we sincerely express our sorrow at the national calamity—the horrible murder of our beloved President. His noble character and generous, lovable nature had endeared him to the multitude. Enterprising illustrated magazines and newspapers have shown him in all attitudes and phases of character. No public man ever submitted more graciously to the demands of the photographer, and those demands are too often annoying to those in public life. It was with pro-

found regret at the lack of principle among some of our fraternity that we read of the persistency of the man with the camera around the house in which the late President lay on his deathbed, in some cases pointing their instruments into the weeping faces of his relatives. Such conduct is contemptible.

Our new President will not be such an easy subject for the photographer, judging from the scathing and well-merited rebuke he administered to a young man who pointed a camera at him as he was leaving a place of worship in the Capital, on Sunday, September 21. As the President came out of the Grace Reformed Church, at Fifteenth and O Streets, at the close of the service, a young man with a snap-shot camera levelled the instrument to get a picture.

"Stop that!" commanded the President, and his voice rang out loud enough to startle those inside the church.

"You ought to be ashamed of yourself to come here on Sunday and try to make a photograph of persons leaving a place of worship. You ought to be ashamed, and I hope your self-respect will prevent you from ever repeating the attempt."

The young man with the camera blushed. The President looked at him coldly, and the young man hurriedly bundled his camera under his arm and disappeared.

It will be remembered that another young man was literally jumped upon, camera and all, for attempting to snap-shot President (then Governor) Roosevelt as he was emerging from the water at a summer resort.

About the propriety of Sunday photographing the editors have decided views, but every man is entitled to his own opinion, presuming that he follows the dictates of his conscience. Deference to the opinions of others is, however, a mark of good breeding. No gentleman worthy of the name, to gratify pleasure or personal vanity, will parade his inclinations and foibles where common sense should teach him they are not tolerated.

THE PHOTOGRAPHIC ENCYCLOPAEDIA advertised this month by Andrew J. Lloyd & Co., besides being a *vade mecum* of all things photographic, is supplemented by an extensive list of photographic formulæ and instructive articles by well-known writers, making it worth many times the twenty cents charged for postage.

RODINAL is well known as an excellent developer for plates where the negative has to be subsequently enlarged. The image resulting is clearer than a pyro-developed negative, the result being the admission of a stronger light and a better image on the enlarging board.

Royal Photographic Society New Standards.

THE series of standards adopted by the Society in 1881, and modified in 1891, have been again carefully reconsidered by a committee of experts appointed by the Council. Their recommendations, which are embodied below, have been adopted by the Council, by whose orders this schedule is now published.

LENS DIAPHRAGMS.—(1) That intensity ratio be defined as dependent upon the *effective aperture*, and not upon the diameter of the diaphragm, in relation to the focal length of the lens.

(2) That effective aperture be determined in the following manner: The lens shall be focused for parallel rays; an opaque screen shall be placed in the principal focal plane, the plate being provided, in its centre (in the axis of the lens) with a pin-hole; an illuminant shall be placed immediately behind the pin-hole, and the diameter of the beam of light emerging from the front surface of the lens shall be the measure of the effective aperture.

NOTE.—It will be found, except when the diaphragm is situated in front of the lens, that the diameter of the diaphragm itself is seldom identical with the effective aperture.

(3) That every diaphragm be marked with its true intensity ratio, as above defined, in the following order of sequence: $f-1$, $f-1.4..$, $f-2$, $f-2.8..$, $f-4$, $f-5.6..$, $f-8$, $f-11.3..$, $f-16$, $f-22.6..$, $f-32$, $f-45.2..$, $f-64$, &c., each diaphragm requiring double the exposure required by the preceding diaphragm.

Should the greatest effective aperture of a lens not conform exactly to one of the intensities set forth above, this aperture should be marked in accordance with the definition of effective aperture, but all succeeding smaller apertures should be marked in uniformity with the intensities recommended in the above sequence.

LENS MOUNTS AND FITTINGS.—(1) That the equivalent focal length of a lens be engraved upon its mount.

(2) That the following series of screws for photographic lens flange fittings be adopted, it being understood that, in order to secure free interchangeability, every male screw should be made at least as small as these sizes, and every female screw at least as large:—

* 1.	24,	.9466	1.25	24,	1.1966	1.5	24,	1.4466
1.75	24,	1.6966	2.	24,	1.9466	2.25	24,	2.1966
2.5	24,	2.4466	3.	24,	2.9466	3.5	12,	3.3933
4.	12,	3.8933	5.	12,	4.8933			

The Form of Thread is that known as Whitworth's Angular Thread, and is designed as follows:—

Two parallel lines, at a distance apart equal to 0.96 of the screw pitch, are intersected by lines inclined to each other at fifty-five degrees.

* First figure is diameter in inches. Second figure is number of threads per inch. Third figure is core diameter in inches. For screws less than one inch in diameter, the Royal Microscopical Society's screw should be adopted.

One-sixth of the vertical height of the triangular spaces so obtained is rounded off both at the top and bottom, leaving the form of the screw thread. The depth of this thread is 0.64 of the screw pitch. It should be understood that this is the theoretical form of the Whitworth thread, but that for the purpose of securing real interchangeability it is generally found necessary to use chasers or other threading tools which have additional prominence upon their points which come first into operation and are subject to most wear. For this purpose an addition may be made to the amount of one-tenth (1-10) of the theoretical depth of thread or to any less amount that may be sufficient.

(3) That every flange and adapter have a mark upon its front to indicate the position of the diaphragm slot or index of any lens when screwed home. The mark on any adapter should coincide with the mark upon any flange into which it is screwed. This mark should be placed at the point at which the thread becomes complete at the shoulder of the flange or adapter.

CAMERA SCREWS.

That all screws fitted to cameras either for attachment to the stand, for fixing rising fronts, or for other movable parts, be either 3-16, 1-4, 5-16, or 3-8 of an inch in external diameter, and in pitch of thread and other details in accordance with the generally recognized Whitworth standards for these sizes.

The Carbon Process.

It is surprising how few amateurs work this most delightful and simple printing process. The carbon paper can be procured in rolls or in packages of a dozen sheets in twenty different shades. To use, it is first sensitized in a bath of bichromate of potash of 3 to 5 per cent. strength, a good standard being 1 ounce of bichromate in 25 ounces of water, with a drop or two of ammonia to make it slightly alkaline. The time of immersion may be 3 to 5 minutes, and it is then dried in the dark, when it will keep at least a week in good condition.

The time of printing is about one-third that of the ordinary printing out paper, and may be timed by noting the printing of a negative of similar density on a piece of Solio paper until it is just proof deep. To develop, place a piece of single transfer paper in a dish of cold water, and when it feels sticky bring the surface of the print in contact with it in the water. It is then squeegeed on a piece of plate glass, covered with a piece of blotting paper and left under a weight for 15 minutes. Next place the print in a dish of hot water about 120° F. The color will soon begin to ooze out between the edges, the supports separate, and the image begin to develop. When fully developed transfer to an alum bath and wash in water for a few minutes. The working details of this and double transfer are given in a little book, which may be obtained free from G. Gennert, 26 East Thirteenth Street, New York City, who carries a supply of tissue in 20 different colors and all the necessary requisites.

Practical Chemistry for Professional Photographers.

BY MILTON B. PUNNET.*

PART II.

(Continued from Page 425, September Number.)

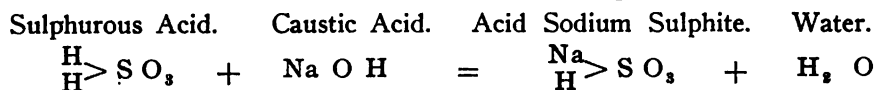
PRESERVATIVES.

OF the known preservatives neutral sodium sulphite is the one most commonly used and to it has been attributed many evils, some real and some imaginary.

To start with, there is prevalent among photographers a misunderstanding of the meaning of the term neutral used in this connection, and this misunderstanding has been the cause of the condemnation of many really good brands. The term neutral used here does not refer to its reaction, or rather non-reaction, with indicators such as, for instance, "litmus," but refers to the chemical solution of the salt.

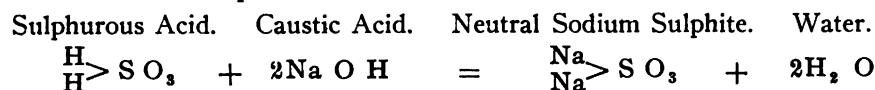
Sulphurous acid has two atoms of hydrogen, which can be replaced by an equivalent base or metal.

If we replace one of these atoms of hydrogen by an equivalent amount of Metal Sodium we have acid sodium sulphite.



Acid sodium sulphite, or as it is commonly called, Sodium Bisulphite, reacts acid with litmus paper, but is called acid because it has still left an atom of hydrogen which can be replaced.

If we replace both atoms of Sulphurous acid with Sodium we have neutral sodium sulphite.



Neutral Sodium Sulphite reacts alkaline to litmus paper and is called neutral because the two replaceable atoms of Hydrogen in the acid have been replaced by an equivalent amount of metal; that is, its affinity is neutralized or satisfied.

A similar relationship exists between Carbonic acid and Sodium Bicarbonate and Carbonate. In this case the Bicarbonate (also called solid carbonate and baking soda) reacts alkaline and the carbonate (also called neutral carbonate, sal soda and washing soda) is strongly alkaline, as you all know. It is impossible to make neutral Sodium sulphite acid, for it is crystallized from a solution made strongly acid with sulphurous acid, the pure crystals react alkaline.

From these examples the inference must not be drawn that all chemi-

* Address delivered before Photographers' Association of America, Detroit, Aug. 8, 1901.

cally neutral salts react alkaline; on the contrary, there are some that test neutral and others that test acid.

The reason assigned for the fact that Sodium Sulphite and Sodium Carbonate are alkaline is that the alkalinity of the Sodium or basic part of the compound is so much more powerful than the acid part that its characteristic properties predominate. Sulphurous and Carbonic acids are comparatively weak acids as far as their ability to affect litmus and other indicators and to be replaced with other acids is concerned. If common vinegar, whose sour taste is due to the acetic acid it contains, is added to a solution of sodium sulphite or sodium carbonate, the sulphurous acid or carbonic acid, as the case may be, is driven off and its place taken by the acetic acid, Sodium acetate being formed.

Acetic acid is not considered a very powerful acid. As examples of strong acids we may mention Sulphuric, Nitric and Hydrochloric acids. Another thing which has led the photographer astray regarding the quality of his sulphite is the fact that litmus is not a very good indicator for Sulphurous acid. Litmus is of a vegetable origin and Sulphurous acid has a bleaching action on vegetable colors.

Many of you are acquainted with the interesting experiment of bleaching a flower by holding it in the fumes from a burning sulphur match.

Again, if in neutralizing the sodium sulphite solution the acid is dropped on the surface of the solution each drop causes a slight effervescence showing the escape of the sulphurous acid gas.

To avoid this stir the solution while adding the acid, or better still, drop the acid into a separate empty vessel and pour the solution in on top of it.

Theoretically the best acid to use in acidifying a Sodium Sulphite solution would be Sulphurous acid (not sulphuric acid), but it has the drawback of not keeping well in solution, besides not being always obtainable. When the fumes from burning sulphur are passed into water they are absorbed, forming a sulphurous acid solution. Sodium Sulphite is made by passing sulphurous acid gas through a solution of Sodium Carbonate and then evaporating until crystallization takes place. If care is not taken to convert all of the carbonate into sulphite before evaporating, it can easily be seen how the latter salt may exist as an impurity in the former. The natural alkalinity of sodium sulphite would make it difficult for the general photographer to say whether sodium carbonate was present or not, unless the latter salt was present in fairly large quantities. A well-known photographic chemist informed me that he had analyzed a sample of sodium sulphite which contained 18 per cent. of carbonate. Of course such a large amount of carbonate would cause irregularities in development, unless its presence was known and allowance made for it in compounding the developer.

Crystallized sodium sulphite upon exposure to dry air gradually loses its water of crystallization and changes to the powdery form. Under similar conditions it is oxidized to the sulphate.

It does not necessarily follow that these two changes go hand in hand and that all the white powder is sulphate.

The crystallized article should always be kept in a cool, dry place, in well sealed bottles or cans.

In buying Sodium Sulphite, as well as other chemicals used in photography, it is best to obtain a reliable article from a reliable dealer.

Dry or Anhydrous Sodium Sulphite is now easily procured and presents some advantages over the crystallized article.

Sodium Bisulphite and Potassium Metabisulphite are two preservatives which are not so universally used as the neutral sulphite and when used it is generally in connection with the latter salt.

Their strength, if anything, is more uncertain than that of the sulphite.

The amount of sulphite in the developer affects the color of the negative image by regulating the rate of decomposition of the pyro. The less sulphite the faster your pyro oxidizes during development, and therefore the more your film and image will be stained. The image does not consist entirely of silver, but is partially made up of an organic deposit from the decomposed pyro.

ACID PYRO PRESERVATIVES.

As a preservative of the pyro stock solution before development various acids have been recommended. Tests made with oxalic, citric, tartaric and nitric acids for this purpose showed the first named to be the most suitable, especially when distilled water is used. If hard water is used the lime combines with the acid, forming the insoluble calcium oxalate (commonly called oxalate of lime), and an uncertainty as to the amount of acid remaining is introduced. When making the acid pyro solution the acid is dissolved in the water before dissolving the pyro.

As the preservative power of the acid ceases as soon as the pyro solution is mixed with the carbonate solution it is necessary to add the usual amount of sulphite to the carbonate solution. The poisonous property of oxalic acid need not be considered as preventing its use, as pyro itself is just as poisonous.

ACCELERATORS.

The alkalis commonly used in developers fall under the headings, viz., Hydrates and Carbonate. These headings, of course, take no account of Sodium Triphosphate and acetone-sulphite, which are sometimes used.

The latter two compounds deserve, as far as my experience with them leads me to judge, but a passing notice. Sodium Triphosphate upon exposure is easily changed by the carbonic acid in the air into the common Sodium Phosphate and Sodium Carbonate.

There is therefore a doubt as to its purity. In the developer it has no advantages over the alkalis generally used. If lime or limestone is dissolved an Acetic acid, Acetate of Lime, or, in chemical nomenclature, calcium acetate is formed. If calcium acetate is subjected to sufficient heat it is decomposed and one of the products formed is Acetone.

Acetone when pure has an agreeable odor, but the odor of the common article is far from being agreeable.

It has been recommended in combination with sodium sulphite as an accelerator.

An extended series of sensitimeter tests showed that it had no advantages over the ordinary accelerators in the production of either speed or density, but has the disadvantages of smelling badly and its comparatively high cost.

HYDRATES.

The hydrates of Sodium, Potassium and Ammonium are better known to the photographer as Caustic Soda, Caustic Potash and Ammonia or Liquor Ammonia.

With the exception of Ammonia Hydrate they have never come into common use. They are much more energetic than the carbonates, but do not direct their energy solely along the line of development, but attack the film and dissolve the cuticle of the fingers, causing that slippery feeling. This is especially true of Caustic Soda and Caustic Potash.

These latter salts have a somewhat extended use in this country and England in connection with Ammonia Carbonate as an accelerator in developers used in producing colored lantern slides and transparencies. In this class of developers they react on the Ammonia Carbonate forming Sodium or Potassium Carbonate, as the case may be, and Ammonium Hydrate or Free Ammonia, and it is the free ammonia which is most active in producing the colored silver deposit.

Ammonium Hydrate's day has gone by in this country, although it is still used quite extensively in England. Its strength is very uncertain, varying from the stronger water ammonia of the chemist to the weak watery solution sold for a few cents at the corner grocery.

The uncertainty of its strength, its volatility before and during development and the disagreeable effects its fumes have on some people, are the chief reasons for its being discarded.

CARBONATES.

There are but two carbonates that are used to any extent and there should be but one, and that one is Sodium Carbonate.

I know in making this remark that many of those present will not agree with me, but this assertion is not made off-handed; it is the result of many practical comparative tests. Not tests made by exposing some plates to-day and developing with Potassium Carbonate, and exposing some to-morrow under perhaps different conditions and developing with Sodium Carbonate, then claiming that because the latter were the better it was due to the Sodium Carbonate used, but by making comparative tests side by side under as nearly identical conditions as possible. As far as relates to the product of speed, density and chemical quality, Potassium Carbonate is just as good as Sodium Carbonate and no better. Sodium Carbonate has the advantage of being more easily obtained of a definite strength, purer quality and cheaper price. Potassium Carbonate (sometimes called salts of tartar) is deliquescent; that is, it absorbs water from the air and becomes semi-liquid. Crystallized Sodium Carbonate under ordinary conditions of atmosphere effloresces or loses part of its water

of crystallization. Chemically the carbonates undergo no change during exposure to the atmosphere.

ACTION OF ACCELERATORS DURING DEVELOPMENT.

It has often been stated that the action of the accelerator in the developer is to open the pores of the gelatine, thus allowing the reducing agent to act on the silver salts. There may be a grain of truth in this statement, but it is only a grain. Acetic acid has a powerful softening and solvent action on gelatine, yet a developer containing free acetic acid in place of alkali would hardly prove a good one.

The truth is, that all organic reducing agents used in development have a greater affinity for oxygen when in an alkaline solution than when in an acid solution, and therefore act more energetically in the former condition.

As an illustration, the method of determining the amount of oxygen in the air may be mentioned. Here, a measured volume of air is passed into a Pyro solution made strongly alkaline with caustic soda. It is then passed back into the measuring tube, and the loss in volume shows the amount of oxygen absorbed by the Pyro.

FIXING BATHS.

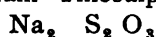
Sodium Hyposulphite, or more correctly, Sodium Thiosulphate, is now obtained of such good quality that it is seldom that any fault can be found with it.

The relationship existing between Sodium Sulphate and Sodium Thiosulphate is easily seen from a comparison of their chemical symbols.

Sodium Sulphate.



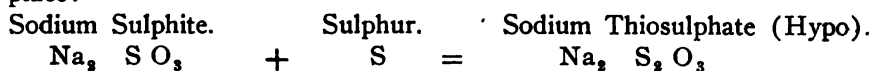
Sodium Thiosulphate.



One atom of oxygen in the former is replaced by an atom of sulphur in the latter, hence the prefix, Thio, referring to the sulphur.

When an acid, or an acid reacting salt, for instance, Alum is added to a Hypo solution, this sulphur becomes visible as a fine white precipitate.

The name Sodium Hyposulphite originated from the relationship which it also bears to Sodium Sulphite. This relationship is easily seen when its method of manufacture is considered. If a solution of Sodium Sulphite is heated with an excess of sulphur the following reaction takes place:



That is, one molecule of Sodium Sulphite plus one atom of sulphur equals one molecule of Sodium Thiosulphate.

The above mentioned, of course, is not the method used in manufacturing the commercial Hypo, for, as the crystallized Hypo contains more Sulphur and only one-half the amount of water of crystallization that the crystallized neutral sulphite contains, it is easily seen that if the former was made from the latter it would necessarily cost more.

Hypo is cheap because it is made from the by-products found in the manufacture of Sodium Carbonate.

When a plate is placed in the fixing bath the Sodium Thiosulphate reacts with the Silver Bromide and Iodide, forming Sodium Silver Thiosulphate and Sodium Bromide and Iodide. These salts, all being soluble in water, are removed by washing. I do not intend to enter into a discussion of the various kinds of fixing baths, but will say that in my experience the acid alum fixing bath made with common alum, acetic acid, Sodium Sulphite and Sodium Thiosulphate is the best all round bath.

The sulphite is added to prevent the acid and alum from acting on the Thiosulphate and precipitating the sulphur.

TEMPERATURES.

One word regarding temperatures. It is not sufficient in summer to have your developer at a proper temperature, but if possible trays, fixing bath and wash water should be cooled, otherwise the cooling of your developer is but a partial protection from the common summer complaints.

ANALYSES.

It is hardly within the scope of this address to deal with the qualitative analyses of chemicals, but there are a few points which occurred to me, and which I think will be of interest and aid to you.

Suppose you had made up three solutions, viz., a carbonate, a sulphite and a Hypo solution. Having omitted to label them (something you should never fail to do), you found some time afterwards that you did not know which was which. Most of you would do as your President, Mr. Core, said he would do, viz.: "Dump them out and start over." But why waste time and chemicals when they can be very easily saved? I have before me three solutions like those I have mentioned.

To one I add an acid, in this case acetic acid (almost any other acid would do), and it effervesces strongly; of course this is carbonate. To the second add the acid. It effervesces slightly, but smells strongly like burning sulphur; you all know that is the sulphite. The remaining solution must necessarily be the Hypo, but we can easily test it by adding the acid. It turns milky, due to the sulphur precipitating out, and sulphurous acid gas like that from the sulphite escapes.

If to the Hypo solution we had added a solution of alum the same reaction would have taken place, as you all know from experience in compounding an alum hypo bath without adding Sodium Sulphite.

PRINTING FROM BROKEN NEGATIVES.—When the glass support is cracked, or even broken, it is still possible to obtain good prints by placing the negative in the printing frame on a very clear glass plate and pasting on the outside a piece of tissue paper. Afterward expose, as usual, to diffused light, care being taken from time to time to turn the frame.

Contribution Box.

ALTHOUGH not possessing a facile pen, I willingly comply with your request to give the readers of "Our" magazine, the benefit of my five years' experience in the effort to secure what you so often allude to as "Record of fact" by photography. I am quite sure that I do not possess what I suppose is meant by "Artistic temperament," that I do not indeed understand it; and as I cannot appreciate what passes for pictorial photographs, I never try to produce them.

For the first year after investing in an outfit which still pleases me better than anything else that I have seen, a Rochester Optical Co.'s 7 x 5 "Universal," and a Dallmeyer's rectilinear of about 10 in. equivalent focus; I did as I saw most others doing, fired off at whatever took my fancy, and got, as I fear most others get, a few fairly good negatives and very many failures; the worst of it being that nine times out of ten, the latter included just the subject I wanted most.

But the few fairly good prints that I was able to show opened up a new avenue of industry for me. They were suitable for reproduction, and as I got, for a few prints and such a poor description of the localities in which the subjects were situated, or of the incidents with which they were connected as I could write, as much as amply paid for time, trouble and material, I decided to devote my photography exclusively to that.

Now, I know what I want to photograph and take no chances in securing the desired subjects. Plates are cheap, and whatever latitude there may be in the exposure, there is for every subject and under every condition, a *time* that will give a better result than can be produced by any dodging in the development with anything either under or over it. I have great faith in the Wynne exposure meter; but the indicated time even by it is not, under all conditions and for all sorts of subjects, the best; and therefore I generally expose no less than five plates on each selected subject, giving one the meter time, two each different degrees shorter and two in the same way longer. Sometimes the longer and sometimes the shorter give the best results; but in this way I never fail to get at least one negative that is thoroughly satisfactory to those for whom it was made.

Although I attach little importance to formulæ, and have little doubt but what almost any other would do as well, I have long employed the following with perfect satisfaction.

STOCK SOLUTION.

Ortol	240 grains.
Potassium metabisulphite.....	120 grains.
Sodium sulphite.....	2 ounces.
Sodium carbonate	2 ounces.
Water	10 ounces.

One part of this added to seven parts of water makes a solution that leaves nothing to be desired.

Some of my friends accuse me of extravagance, and call me a plate waster, the plate maker's friend, etc.; but when I assure them that during the past two years at least I have not once failed to get from my five exposures at least one negative perfectly adapted to the purpose for which it was made, and ask if they can conscientiously say that with their one plate to one subject they secure twenty per cent. of equal successes, they are constrained to admit that I have the best of it.

FRED. W. LEE.

THE PICKERING SPEED TESTER.

In re the Pickering Speed Tester, I would draw your attention to a simple improvement when employing it out of doors on a windy day. It is simply to tie to the lower end of the reflecting ball a leaden bullet and to shorten the string in proportion. The apparatus can then be used with much greater comfort as the swings are steady even in a moderate wind and do not fall off in amplitude so quickly.

WALTER DEARDEN.

A PASTE-DOWN EFFECT.

A pretty effect can be obtained when printing with matt-surface gelatino papers thus: Cut a mask with a small cutting shape out of opaque paper, then print a little scene or figure study, as the case may be, with the mask over, on matt P.O.P. or bromide paper, and, having finished the toning or developing and washing necessary, squeegee the wet print on to the cutting shape (having first prepared its surface with powdered talc in the usual way), making the edges of the picture and the cutting shape coincide, and using, of course, the same cutting shape the mask was cut with. This will leave a white matt-surface margin, and, when the print is dry and peeled off, the effect is charming—a little glazed picture in the center, and a white matt margin around.

F. J. MORTIMER.

TO RENDER PAPER IMPERVIOUS.—Any kind of paper may be rendered impervious by plunging it into a solution of glue to which a little acetic acid has been added. For each quart of this solution add one ounce of bichromate of potash. Pass the paper through this solution, then dry in full light, never in obscurity.

Notes.

PHOTOGRAPHERS have long desired to be able to obtain some apparatus that would automatically act in conjunction with the diaphragm and shutter in giving the correct exposure under all conditions of light. If reports are true this Utopian state is now almost within their reach. M. Jos. Poliahoff, of Moscow, a student, has obtained letters patent in England and foreign countries, and has pending applications in this country to cover the device in question. We are not in a position to fully describe his discovery, as yet, further than to say that he obtains his control over the enigma of exposure by the action of light upon a selenite plate, through which passes a current of electricity obtained from a small pocket battery. Selenium, as is well known, is one of the rarer minerals; and its application to solving the problem of exposure is based on the fact that the current of electricity passing through the selenite plate is varied in proportion to the intensity of the light. When the right degree of light, in proportion to diaphragm used, to properly impress the image upon the sensitive plate is reached, the electric current automatically releases the shutter. Should the discovery of M. Poliahoff be as successful as we hope, the apparatus should have ready sale, and control of its manufacture be a good thing for some concern.

JURORS' REPORT ON THE PHOTOGRAPHY OF THE FRENCH EXPOSITION OF 1900.—The official "Blue Book" containing the jurors' report on the photography of the late French Exposition has just been issued. It is of considerable length and generally of little interest to American readers except so far as it applies to the United States. The following is all that appears under that head.

The United States section, like that of Great Britain, suffers from the fact that it is not sufficiently representative. Some of the best-known professional photographers do not compete, and only two amateurs show examples of their work. The section is, nevertheless, an interesting one, and contains much that is of great merit. The most important manufacturing firm is that of the Eastman Kodak Company, and it receives a Grand Prix for its cameras of various patterns, and especially hand cameras, the latter being on sale at prices varying from 1*l.* 1*s.* to 5*l.* 5*s.* A new feature is the panoramic hand camera, an ingenious instrument for taking views including an angle of 110°. This is sold at a low price, and is likely to be widely used. The Eastman Company also shows some good enlargements in toned bromide.

Mr. Bolles, of Brooklyn, has photographs of yachts under canvas; the

Baker Art Gallery, enlarged portraits in carbon; Mr. Rinchart, photographs of various tribes of Indians; Mr. Byron, photographs of theatrical scenes by artificial light; and Mr. Lawrence, some very remarkable direct photographs in large size taken by artificial light. The Bausch & Lomb Optical Company have a good exhibit of lenses and apparatus.

In the Cuban exhibit, which is under the control of the United States, there are some good examples of professional photography.

THE AMERICAN SCHOOL.—Writing of the exhibition of the American pictures in Paris in *The Photographic News*, M. J. Le Barre says: "That the exhibition of the American School, which has been so aptly termed in one of your journals *à la Hollandaise*, should have created a sensation in Paris was, of course, a foreseen conclusion; but that the exhibition has been received with universal praise is rather too far from the truth, and the effect on some of our impressionist and impressionable workers has been disastrous, and, as one caustic critic puts it as regards one well-known worker, 'he has become infested with the Colorado bug pest, with lamentable results.' Even M. Puyo has been bitten, but his work, whilst far superior to that of the pupils or masters of the American School, is a far more biting sarcasm than anything that can be written no "*les excentricités Yankees*." It out-Herods Herod."

TECHNOLEXICON.—From circulars to hand we are glad to see that the Society of German Engineers are making preparations to issue a trilingual technical dictionary in German, English and French, intended to, as far as possible, include the most of the terms used in every branch of science and art. Dr. Hubert Jansen has been appointed editor, and he seeks the co-operation of all who can in any way help him in the great undertaking. Note-books (*merkhfest*) for the purpose, circulars, and all necessary information may be obtained on application to Dr. Hubert Jansen, 49 Dorotheenstrasse, Berlin.

IT IS WELL FOR US TO "SEE OURSEL'S AS ITHERS SEE US."—*Photography*, speaking of the portrait of an American Girl, says, "Those of our readers who have been privileged to know American ladies will recognize here at once their indefinable characteristic. It seems to be a lack of mincingness; a boldness or self reliance, combined with a strong sense of the decorous, quite unlike the timorous seductiveness of British and continental damsels." Our friend must have been hard hit. At the risk of stirring up trouble in the home camp, our experience and opinion fully vest the British maiden with the qualities ascribed to her American cousin.

Words from the Watch-Tower.

BY WATCHMAN.

OF all the puzzles that are inflicted on the photographer, none is greater and few are so great as the apparent difficulty in settling just what is a "ten per cent. solution." The latest statement that I have come across is by the editor of *The Amateur Photographer*. In a recent number, he says, "the only exact way of obtaining a ten per cent. solution, is to disregard volume altogether, and to weigh the materials in the ratio of 1 to 9."

Now, as a photographer speaking to photographers, who don't want to weigh but to measure their ten per cent. solutions, I say that is not the only way, and that if it is one way it is not the best. The simplest and surest way is to measure the material if a liquid, and weigh it if a solid, add a cipher to the weight in grains or minims, measure that quantity into a bottle and mark it. Pour out a quantity of the water; add the measured or weighed material and fill up to the mark with water. Every ten minims, drachms, ounces or any other *measure* will contain just one grain or minim, etc., of the material, and so it is and must be a ten per cent. solution.

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I sometimes envy the editors their power and dignity, although theirs is not altogether a bed of roses. I recently came across a grumble in one of our most popular photographic magazines that for selfishness surely takes the cake. Notwithstanding that the number referred to, or rather found fault with, contained many pages of really useful matter, the grumbler objected to sparing a few lines telling how to restore to usefulness the cap of a fountain pen that had become too loose. As it was simply to heat it for a moment by the insertion of a lighted match, two or three lines only, even in his estimation, were wasted, while they were to me as valuable as any in the number. The hint when put into practice acted like a charm and saved me just \$2.50, the half-price for which Waterman would have given me a new pen for the old one.

* * *

But editors, he of the A. A. P., of course excepted, sometimes make mistakes. Just think of it! One of them lately allowed a correspondent to occupy a little over a column of about 1,200 words to tell of the old, old method of spreading the sensitizing solution over a sheet of paper. Can it be that they or some of them are glad to get anything to fill up during the holiday time?

I wonder how much the average amateur, or even the supposed to be better acquainted professional knows about color screens or light filters. Some of them doubtless will be as much surprised as was I to know that Hesekeiel & Co., of Berlin, are marking, aye and selling, sets of three for "three-color" photography at something like \$85 per set; and that Voigtländer goes a very big "one better" by putting on the market a set of four at \$75 each, or \$300 the set.

* * *

There are some explanations that do not explain, and surely the most recent as to how "the horse and its rider" was photographed while jumping down a precipice is one of them.

"Iris," in the *Leeds Mercury*, says an excavation was made in the ground and the exposure made from it. It may have been so; but I am too thick-headed to see it. Somebody else please try. I have the editor's promise to find room.

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Honest competitors at minor exhibitions will be glad to hear that Allie Amie, the young woman who, as told in my last batch of "Words," was awarded a prize for a picture with the making of which she had nothing to do, was sent to prison for eighteen months, the judge saying she was a very dangerous woman.

* * *

A REQUISITE OF GOOD BACKING.

Will ever the doctors agree about backing? I don't include in that class the man who thinks he prevents halation by placing a piece of black velvet behind the plate, but only those who know that the backing, whatever it may be, must be in optical contact with it. Of those some there are who maintain that any dark substance, so long as optical contact is secured, is as good as any other, and pin their faith to burnt sienna; while others hold that in addition to the optical contact the backing should have as nearly as possible the same refractive index as the glass. I belong to the first class; rarely use an unbacked plate; have never employed caramel and am never troubled with halation. But as I am willing to learn, I gladly clip the following from *Photography*, in the hope that some who have both the time and the ability will put the question to the test of practical work and report.

It is just as well to remember that backing to be efficient must not only possess what is commonly known as a non-actinic color, but must also so resemble the glass to which it is applied that there may not be at their junction anything in the nature of a reflecting surface. This is a matter

which a good many overlook, and yet it is most important if the backing is to be truly efficient. For instance, we are told that a suitable tinted gelatine, with some glycerine or other ingredient added to keep it gelatinous, may be coated on to paper or fabric and squeegeed into contact with the back of the plate. Unfortunately, for the actual practical value of such a backing, the quantity of light reflected back on to the sensitive film is very little less than if there were no such backing there at all, and it is by no means free from those rays which affect the emulsion. That this is the case can readily be seen by squeegeeing such a film on to a piece of plain glass, and noting the fact that it forms with it a highly-reflecting surface. It is for this reason that caramel has acquired such a well-deserved popularity. The index of refraction of caramel is not very dissimilar from that of glass, so that in addition to its non-actinic color, it, to a large extent, neutralizes the reflecting property of the back surface of the glass. The addition of burnt sienna to caramel is not only not an improvement, but is a positive mistake. By diminishing the capacity of the backing to get into optical contact with the glass itself it increases the reflecting power of the film instead of decreasing it. Doubtless it owes its popularity to the fact that without it caramel backing looks very thin and transparent, although, as a matter of fact, it is actually more efficient than when burnt sienna is present.

CLEANING BOTTLES.—Greasy bottles, wash with benzine or with a solution of permanganate of potash, to which has been added some concentrated hydrochloric acid. The disengaged chlorine in the latter destroys the fatty matter, which then disappears by washing in water. Bottles that have contained resinous substances wash with potash or soda and rinse with alcohol. Bottles having contained essences wash with sulphuric acid and then with water.

FOCUSING-SCREENS *will* get broken, and generally when most wanted. They can be made in the following way: Take two clean negative glasses of the size wanted. Place some fine emery powder and a little water in between the glasses and move the latter with a rotary motion one over the other. By this means a good ground surface is obtained, not only on the one glass, but on both, and therefore two screens are made by the one operation.

FOR PURE BLACK TONES.—Make up an ordinary toning bath with acetate of soda and gold chloride, adding thereto platinum chloride, and you will get pure black. Say, water 1 quart, acetate of soda 2 drachms, gold chloride 4 grains, platinum chloride 4 grains; make up twenty-four hours before required for use. Wash the prints in several changes of water before placing in the toning bath.

"The Passing of the Jobber."

The article in "*Photo Straws*," a trade circular on the "Passing of the Jobber," is so obviously the output of a prejudiced mind and so grossly misleading that it cannot be said that it "shows which way the wind blows." The writer takes umbrage at the statement in the "Kodak Trade Circular" that "improvements in freight, express, telegraph and telephone service" have gone far towards removing the necessity for the jobber in the larger trade centres, and he erroneously tries to infer that "the same may be said of the retailer," giving as his reason that the manufacturer aims to market his goods direct and retain all the profits to himself. The absurdity of the idea is plain to any one of common sense.

In support of his statement he claims that "the trust is at present selling direct to the large consumers." Now this is true only to a very limited extent. Direct trade is not solicited or encouraged by the trust, as he terms the General Aristo Co. There are large consumers whose orders for certain goods would swamp the stock of any two or three retailers, and they order direct from the manufacturer chiefly to get *fresh* goods, and to get them when *wanted*. It is not a question of price, in this the dealer is carefully protected. I could instance two cases which recently came under my notice where consumers of the General Aristo Co.'s products, after suffering repeated disappointment, at the hands of dealers, now send all their large or hurried orders direct to headquarters, preferring to pay the extra freight rather than have their business jeopardized.

Another assertion that "the dealers

are used as catspaws to build up a reputation for trust products" is too ridiculous to be commented on.

Again he says "the trust are good advertisers, but the supply dealers have *made the business by pushing their goods*." (The italics are mine.) If this be so it tends to prove that the dealers appreciate the protective policy and get a better and surer profit out of trust goods, because it is pretty well established that no dealer will push the goods on which he makes the least margin of profit.

"The stifling of competition may be a good thing for the dealer in a way, but it is a better one for the manufacturer." Granted. But, the manufacturer has invested much capital and brains in manufacturing his goods, in assuming all risk, and backing his products with his reputation, he has spent money freely in advertising them, and created the demand, therefore he is fully entitled to a larger share of profit.

"It is sad to learn that there are a few unscrupulous dealers in the country" who are still unbusiness-like enough to see the advantage in the new *régimé*. The "cheap John's" method of business was the direct cause of calling into existence the combination they now try to belittle. But for this concerted and timely action among wiser heads, what would have been the deplorable condition of the market to-day? Let it be remarked in conclusion that all the reputable dealers are satisfied with their lot, and strongly favor the protective policy. "It is a good thing, push it along." Silence is not always *golden*.

J. P. CHALMERS.

A Request from the Editors.

While it is our rule to refer to one print at a time only, in "Our Portfolio" the editors cordially solicit other prints for publication. A cherished gem in your album will be admired by a few, reproduced in this magazine they will be seen by thousands, with the result that the mutual interchange of ideas will be an educational advantage for all. "Example is better than precept." Studying the best work of others

creates new ideas and inspires fresh efforts all along the line.

For this purpose we prefer unmounted prints, preferably with squeezed gelatine surface, as Solio, Albuma, glossy Velox or Bromide. For reproduction purposes there is nothing better than a Solio print. Aristo and other collodion papers answer equally well, but rough surface papers should be avoided.

Our Portfolio.

Communications for the editors, pictures for criticism (only one print at a time) and apparatus and material for examination, should be sent to Dr. John Nicol, Tioga Centre, N. Y.

1305. OSCAR J. MORSE.—The unnamed print, No. 2, is not a picturesque subject, and, at least, from this point of view, was not worth photographing. It includes, practically, three horizontal strips, a grassy foreground, a narrow sheet of water, a stone fence, and a narrow strip of field beyond; and in the distance a row of trees surmounted by a pure white paper sky. The exposure has been too short and development stopped too soon; everything except a few patches of white on which direct light has fallen being of one uniform dark. Learn to expose sufficiently and to *see* pictures; and never have a series of parallel lines running horizontally across the composition. See "Answers."

1306. C. H. WILKINS.—"A Wayside Spring," as photographed, is of no interest, and gives no indication of anything of the nature of a spring. It needed better focusing, longer exposure, and different lighting; and should not have been folded so as to make bad worse.

1307. MRS. F. BUTLER.—"Alice," unless perhaps to those who are more immediately connected with the pretty (we are sure she is both pretty and good), original, is a very unpleasing portrait, and the fault arises from the point of sight having been much too close, *i.e.*, the lens much too near the subject. For this size of head the lens should have had a focus twice as long. Then the lighting is much too flat, too much in front, and the shadows on the right side of the head simply black paper. Try again, light more from the side so as to secure roundness, and employ a reflector to lighten the shadows. See also that sufficient light reaches the background to make the figure stand out from it; and above all, unless you can employ a lens of much longer focus, don't make the figure more than half this size.

1308. H. W. SCHONEWOOLF.—See page 438.

1309. E. W. HANSOM.—"Blackhawk Spring" may be, in nature, a picturesque subject, but as photographed it is a meaningless jumble with predominating

masses of white and black, the former of which may be snow, but nothing like the latter was ever seen in nature. An interesting "record of fact" might have been made of the snow-crueted branches at the top of the print, but a very different treatment and a much longer exposure were required for the rest of the subject.

1310. HELEN L. GRISWOLD.—See page 443.

1311. JOHN G. SHEAFER.—"The Sycamores" is of no interest either as a subject or a photograph. The little corner of water surrounded by trees of various sizes may have "looked pretty" in nature, but there is in it no objective point, no suggestion, nothing, indeed, to make it worth photographing, while the exposure has been so much too short that although lighted by a perfectly white sky, the water is almost black. Learn to look for and recognize the picturesque, and expose long enough to secure some detail in the shadows.

1312. FRANK E. FOSTER.—See page 440.

1313. F. E. BRONSON.—See page 441.

1314. A. P. ARNOLD.—"The Burning Tank," a tank containing 30,000 barrels of naphtha on fire is not a picturesque object, and hardly a subject for "Our Portfolio." We accept it, however, as a curiosity, and a good example of the value of photography as a recorder of facts.

1315. C. E. SODERSTROM.—See page 445.

1316. L. F. MARBURY.—See page 444.

1317. DR. G. W. FREDRICK.—"Life on the Farm" is a charming rural scene, caught just at the right moment. A flock of cattle let in from the adjoining pasture have made a run for the familiar feeding trough, raising a cloud of dust. Behind well-defined clouds the sun is sinking and has barely cast sufficient light to render sufficient detail in the shadows, as the moving objects necessitated a somewhat brief exposure. Under other conditions it would have been possible to obtain truer values, but the picture is well composed, an excellent picture of rural life, and we reproduce it as the frontispiece to this number.

Society News.

Secretaries of camera clubs or photographic societies or associations are respectfully requested to send to Dr. John Nicol, Tioga Centre, N. Y., reports of meetings, copies of papers that have been read before the members, or anything of general interest to our readers.

The American Lantern Slide Interchange.

The new season of the Interchange begins soon after the middle of November next, and judging from new applications of other clubs promises to have a larger membership than ever.

The General Manager early last month sent out the following call for new slides to be submitted next month.

DEAR SIR: The season for 1901 and 1902 is approaching, and in accordance with our rules and custom, you are requested to notify your Club or Society to prepare a new set of from fifty to one hundred and twenty-five slides in time to be sent to me, prepaid, on or before November 15th next. You are also requested to ask the Club or Society to elect in September or October a Lantern Slide Director to represent it in the Interchange for the new season, his term to be from November 1st, 1901, to November 1st, 1902, notification of name and address to be sent to me at once.

A statement of express charges paid by the Club or Society between November 1st, 1900, and November 1st, 1901, excluding expressage paid in submitting slides, should also be sent to me by November 1st next.

In preparing the set, first see that every slide is technically perfect as far as possible; that it is properly labeled, having the name of the Club on the descriptive label, and the thumb label numbered in lead pencil on the lower left hand corner as you look at the slide when the picture is in its natural position; that the mats are true and regular with smooth edges; also avoid selecting sooty slides, those in which the blacks are over dense, so much so as to obscure details in the shadows while the high lights are blank without detail.

In making a selection secure as much variety of subject as possible, unless there is some one theme to be illustrated. Cloud effects are always interesting and landscapes with cloudy skies are to be preferred to those that are blank. Figure studies and genre subjects are generally attractive.

The list accompanying the set should contain descriptive notes, where possible, of historical or special slides.

Trusting you will be able to send a choice and well selected set of slides for the coming season, I remain,

Yours respectfully,
F. C. BEACH,
General Manager,
361 Broadway.

The terms of admission of clubs to the Interchange are very simple. A set of not less than fifty slides of good quality $3\frac{1}{4} \times 4$ inches in size are required to be submitted to the General Manager, accompanied by an entrance fee of ten dollars. The set is then carefully examined in the lantern by members of the board of managers, and if more than fifty per cent. are found to be of good quality the club is admitted, the poorer slides being returned, and the selected ones reserved for the making up of new sets. The only other expense a club has to meet is express charges in sending sets of slides after exhibition to other clubs over routes laid out by the General Manager.

The Manager keeps a special route book, a page of which is devoted to the record of each set of slides, and from reports he receives of shipments a record is made under the set referred to, which enables him to tell at any time where a given set of slides is located, and its probable date of release after an exhibition, for shipment elsewhere.

At the end of the season the total express charges paid by all the clubs is made up and divided by the number of the clubs in the Interchange, which gives a general average of what each club should pay. Those who have expended more than this average (like distant clubs on the Pacific coast) are refunded the difference out of the fund received for dues and entrance fees. Those who have paid less than the average may be assessed the difference. Applications for membership should be made to

F. C. BEACH,
General Manager,
361 Broadway, N. Y.

THE ROYAL PHOTOGRAPHIC SOCIETY ANNUAL EXHIBITION.

The forty-sixth annual exhibition opened on 30th of September, at the new gallery, 121 Regent Street, London, W., England, and is to continue until November 2, 1901. There were "Selecting" and "Hanging Committees," and the judges were: Pictorial: P. H. Emerson, B.A., M.B., Colonel J. Gale, G. A. Storey, A.R.A., F. M. Sutcliffe, J. B. B. Wellington. Technical: Chapman Jones, F.I.C., F.C.S., E. J. Wall, Maj.-Gen. J. Waterhouse, I.S.C.

It is reported that many frames were sent from the United States.

The exhibits show a high order of artistic and technical merit.

CAMERA CLUB OF NEW YORK.—The regular monthly meeting of the club was held on Tuesday evening, Sept. 10th, but no matters of photographic interest were discussed. Only routine business was considered, and that was brief.

ABOUT OUR PRIZE LANTERN SLIDE SET.—A subscriber writes: They were an eye-opener to a great many of us, and will be an inspiration for better work on our part. We gave a free entertainment with them in the Presbyterian Church to a very appreciative audience. It has stimulated the ambitions of our amateur photographers, and while we have some prize winners in the amateur photographers' line, still better work will undoubtedly be done.

Our Table.

Books for review and apparatus and material for examination and report should be sent to Dr. John Nicol, Tioga Centre, N. Y.

We have to thank the Eastman Kodak Co. for "The Witch of Kodakery," a booklet containing four witty outcomes of the muse under the inspiration of kodakery, some of which have been going the round of the lay as well as of the photographic press. They are all clever, and as the little book may be got for the asking, all who appreciate the funny side of nature should secure a copy.

* * *

ORTOL TUBES.—Pyrogallol has long been considered as the standard developing agent, but its popularity is now closely run by ortol. Many of our most esteemed subscribers inform us that they are now using ortol exclusively, on account of its non-staining quality, and the fact that it yields a negative of printing quality almost identical with pyro. Moreover, ortol, besides being an ideal developer for plates or films, is equally useful for the various developing papers. It is with pleasure, therefore, that we direct the attention of our readers to a new commodity that should meet with universal approval, viz., ortol tubes. This is a most compact, convenient and economical form of developer. By dissolving the contents of the tube in 40 ounces of water we get five times the quantity of the ordinary 25 cent bottles of concentrated developer,

and the cost is only 35 cents. Ortol is one of the developers prepared and patented by the German firm of J. Hauff & Co. While it is not so energetic in its action, as their well known metol developer, it yields clear and contrasty negatives, and allows great latitude of exposure. It is particularly recommended for Velox, Dekko, Cyko, Azo, and other gaslight papers. The ortol tubes are prepared and put up by the manufacturer, and obtained in this country through the Messrs. Gennert, of this city. A very complete "pamphlet on developing," with the new coal tar derivatives, is published by Messrs. Gennert, and sent free on application.

* * *

THE WAGER EXPOSURE SCALE.—From the Wager Exposure Scale Co., Philadelphia, comes one of their exposure slide rules that at the first glance seems so complicated, but after five minutes' study becomes almost ludicrously simple. Working with the fastest plates, and in intense sun, one movement of a slide brings any one of over a dozen conditions or subjects under any particular working hour of any one of the twelve months; when, in line with any U. S. number or *f* value (both being given), from *f*/64 to *f*/56, the correct exposure will be found. For different

conditions of light, such as "bright," "hazy," "dull," or "very dull," and plates of different speeds a single motion of another slide tells the whole story, it being only necessary to bring the line of any one of those conditions under the time indicated as a result of the first movement, to find the correct exposure under any one of eight different speeds, from No. 1 to No. 8.

The arrangement of the scale is the outcome of much thought and many experiments, but it was well worth all the labor that has been expended on it. We have put it to the test of some practical work, and compared many of its indications with those of both of the popular actinometric meters, and have no hesitation in saying that those who trust to it will never go far wrong; and that its cost, 50 cents in cardboard, and a dollar in aluminium may be saved by helping to make good negatives instead of spoiled plates in a single day.

Although the speed numbers of all of the popular American plates are given on the back of the scale, those who travel and want to use the plates of other countries would find themselves at sea but for the ease with which they may find the speeds for themselves. For example, if the scale be set for "average and near views and buildings" in October, the exposure for the most rapid plate in brilliant sunlight, with $f/22$ will be seen to be 1 second. If, now, the lower slide be moved so as to bring "bright" under the "1 second," on scale D, the speed numbers, from 1 to 5 will be found to be over exposures from $1\frac{1}{2}$ to 5 seconds. It is then only necessary, in "bright" light and on the indicated subject, to expose a plate in 5 slips to that range of exposure, or if that be inconvenient five small plates, and on development it will be seen which of the five has been nearest to correct exposure, and the figure on slide F immediately over that exposure on Scale G will be the speed number of the plates.

* * *

GEO. K. HAZLITT & Co., publishers, Chicago, have just issued a useful text book, "Improving the Negative," from the pen of Henry G. Abbott. Judging from numerous enquiries, there is no subject connected with photography that more needed an addition to its literature. Mr. Abbott treats the subject thoroughly and clearly, giving all the most ap-

proved formulæ for intensification, reduction, spotting, etc., with valuable hints for their successful use. This timely publication should be on every darkroom shelf. Price, 25 cents.

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THE COLOPLATIN CO. OF AMERICA send samples of a new printing out paper, the "Coloplatin Matt," with which we are very much pleased. The surface is one of the most exquisite that we have seen, and seems to give almost, if not altogether, as much and as delicate detail as most of the glossy varieties; while the absence of the stickiness of gelatine papers gives great freedom in working. It prints rapidly to a reddish brown image, and with either of the toning formulæ recommended, and with others that we have tried, gives exquisitely beautiful tones, rivaling carbon and platinum.

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NOVELTIES IN UNMOUNTED PHOTO ALBUMS.—J. L. Schafuss & Co., album manufacturers, of 94 Reade Street, New York City, have added to their already large stock a series of sizes in a new style flat-opening, plain leaf album, to accommodate any of the amateur size photographs. These are called the "Royal Flexible Albums." They are for pasting the photograph, and when you open an album at any page, it lies flat. The covers are flexible and free from blisterings or cockling. The bindings are of full silk cloth and imitation seal grain, while the leaves are made from this firm's celebrated Pure-Est stock, which is guaranteed not to injure the most delicate print, as the majority of papers used in albums will do, in time. The leaves are of Carbon Black, Scotch Gray, Steel Gray and Sepia. Another new style is the "Royal Interchangeable Leaf Albums." There is an ever-increasing demand for Albums, whereby an additional number of pictures can be added, or the pictures can be interchanged from one part of the Album to another, and these styles will answer these requirements. The covers are so arranged as to admit of extra leaves by simply unscrewing a button which tightens the binding. These Albums are made to accommodate any amateur print from a $3\frac{1}{2} \times 3\frac{1}{2}$ to a 10×12 . The bindings are of full silk cloth, imitation leather and genuine sea grain leather, the leaves being of Carbon

Black, Sepia, Steel Gray and Scotch Gray, and of Pure-Est Stock. Dealers on the lookout for novelties should keep in touch with this firm. Illustrated catalogue and discounts mailed on request.

THE ILLINOIS COLLEGE OF PHOTOGRAPHY, at Effingham, has issued a new illustrated prospectus that should be of interest to those desiring to acquire the best possible practical acquaintance with photography in the shortest possible time, and at reasonable cost. From it we learn that the faculty consists of ten experienced teachers, and that the teaching includes the too little thought of, but from a professional point of view, most important branch, "practical business methods."

Those desiring to know how to enter professional photography, and how to make it a success after entering, should send for a copy.

THE POLYCHROMATIC PLATE.—We are sorry that from pressure of other matters and inconvenient laboratory accommodation in our summer home, we have been unable to keep our promise to thoroughly test and report on Carbutt's new effort to obtain a wider orthochromatism. We have, however, seen some results by other workers, including roses and other wild flowers on the dunes on his new polychromatic plate, all of which were highly satisfactory. We shall set to work on it as soon as we reach home, and hope to give the results in our November issue.

New and Improved Apparatus.

The Century Camera.

CENTURY MODEL GRAND.

THE CENTURY CAMERA Co., Rochester, N. Y., are to be congratulated on the merits of the "Century Grand," and the "Century Grand Special," the latter fitted with the Goerz Double Anastigmat lenses; which makes us feel that surely perfection in camera construction and design has been reached. It is fitted with triple section telescopic brass-bound bed, operated by a single pinion, and especially adapted for the modern heavy anastigmats; a new patent swing back and bed, and rising front, all operated by rack and pinion; and if desired, a superior rectilinear convertible lens. The Century Grand is a beautiful and practical instrument of the highest grade that will give satisfaction to every one.

The Century, Model F., is a hand

and tripod camera, which may be used with glass plates or cartridge roll film.

It is made in the best manner, and covered with black seal grain leather. The platform is attached to the case by a piano hinge running the entire length of the bed, giving strength and beauty. The extension bed is made in two sections. The bellows is of proper length to permit the use of the back combination of

the lens, for long distance views.

The camera has both swing bed and swing back, adjusting with rack and pinion. To secure the required angle of view the camera is placed perfectly level, and while examining the image on the ground glass, the swing is manipulated by revolving the pinion. The front has both horizontal and vertical movements. This style of Century camera is regularly equipped with a fine Rapid Convertible Lens, and new automatic shutter with speed regulator.

The Century camera, Model F., is, we are certain, likely to be fully appreciated by all desiring a camera with modern improvements and adapted for all kinds of work at a reasonable price. It contains many useful features for amateurs.

A New Form of Developing Tray.

We present herewith a novel form of developing tray, invented and patented by Mr. S. B. Sheppard, of Burgettstown, Penn., having a glass bottom and a pocket at one end for holding the solution. At the other end is a suitable faucet for draining out the developer after use. Two spurs project above the bottom of the tray at the lower end of the glass aperture for the purpose of preventing the plate from dropping into the pocket below.

the covering of the plate in this manner prevents air bells and bubbles from forming on the film.

During development the tray is easily rocked with no fear of the developer splashing over, and the plate is readily examined as to density by transmitted light when the tray is held in a vertical position in front of a red lamp, without being handled with the hands. When development is completed the tray is raised to a vertical position and the plate removed in the same way it was inserted. It is consequently a very cleanly tray, because there is no dipping of the fingers in the solution.

We are advised that a still further improvement has been perfected for covering extra sensitive plates during development, by spring actuated leaves covering the aperture. Pressure on a convenient handle opens a slit for examination of the plate.

* * *

Graphic Specials.

We had the pleasure, during the month, of examining two cameras that for beauty of design, excellence of workmanship, and practical usefulness, capped the climax. One was a 4 x 5 long focus Graphic, fitted with Thornton Pickard focal plane shutter and roll holder, a hood shielding the Zeiss anastigmat lens. This camera was specially adapted by the manufacturers, Messrs. Folmer & Schwing, of this city, to the requirements of a gentleman making an extended trip into the Maine woods. To avoid reflections that might startle the wary denizens of the forest, the bellows and all parts of the camera were blackened and the brasswork dulled. The other camera was an 8 x 10 Graphic by the same firm, specially constructed for the well-known theatrical and view photographer, J. Byron. It is fitted with three lenses, there being pockets inside to hold those not in use, accurate focusing scales for each lens, an adjustable view finder, which when not in use folds flat on the top of the camera, and other contrivances that are the property of Mr. Byron. Mr. Byron is unstinted in his praise of the Graphic plate holder, says it is the only holder he has been able to manipulate in bright light, as on the sea, without getting his plates light-struck.

The interior curves of the tray prevent any portion of the developer from adhering to it, so that the tray is easily cleaned.

The exterior portion is formed in such a way as to allow the tray to be readily handled and rocked during development. The tray is set up in upright position, as shown, and the developer placed in the lower pocket. The exposed plate is next inserted, the lower end being supported by the lugs previously mentioned.

To develop, the tray is placed in a horizontal position, which causes the developer in the pocket to immediately cover the plate at one swoop. The gen-

WATKINS' DIAL EXPOSURE METER.

The American agents, the Reinschild Chemical Co., of 60 Maiden Lane, New York, send us one of Watkins' new aids to correct exposure, for which, after putting it to the test of a good deal of practical work, we have nothing but praise.

In appearance, it is simply a watch and "Albert" chain, with, on the dial, instead of the usual hands and figures, five small openings through which appear certain figures; two studs by which the discs containing those figures may be revolved, and a standard tint behind which is a disc of test paper; the two forming a reliable actinometer, a never failing means of accurately measuring the intensity or photographic quality of the light.

Accompanying the meter, and what may be called the keynote of its action is the "speed number" card; a list of the relative speeds of all or nearly all of the American plates, the numbers being practically the minimum exposure with $f/8$ for a landscape in full summer sun, *e.g.*, 100 requires just the 1-100 of a second, 80, the 1-80, and so on. As plate makers are constantly striving after greater degrees of sensitiveness those cards are revised from time to time at a cost of five cents; that on which we are now working being dated April, 1900.

The following description of an experiment made to-day (August 29th), will show clearly just how the dial meter is employed, and how great is its value, as an aid to that most difficult but most essential of all operations in photography, correct exposure.

The subject was a row of cottages on the dunes, surrounded by dark foliage, and to secure an approach to equal definition of near and distant objects $f/32$ was employed. The plates were Carbutt's "Eclipse 27," having a speed according to the card, of 140; that is, of such sensitiveness that they would be correctly exposed on a landscape well lighted by a full summer sun with $f/8$ in the 1-140 of a second. The projecting stud on the left of the dial was therefore moved till a little past the 130 appeared at the opening marked "Plate," there being nothing between it and 180; and the stud on the right of the dial moved till 32 appeared in the opening marked "stop." The meter was then inverted, the bow and chain suspended from it below, and the latter set a

swinging, it being of such a length as to swing half seconds. In this position the dial was exposed to the light at right angles to the sun, and the back of the "watch" revolved till a fresh portion of the test paper appeared between the two test tints. The instant that it appeared the counting of the swings of the chain pendulum began, counting only from one end, "nought, one, two," etc., up to 8, at which time the, at first pale blue of the paper had perfectly matched the darkest of the two test tints, 8 being the actinic number. The first two fingers of the right hand were then laid flat on the glass with the "Act" opening between, and a gentle pressure made it easily revolved, till the 8 appeared. It only remained to glance, at the opening immediately opposite marked "Exp." and see that the indicated exposure was " $\frac{3}{4}$ " or 3-4th of a second. Several plates were exposed, some getting a shade less and some a shade more exposure, but on development it was quite evident that the indicated time was the most nearly correct.

From this it will be evident that while employing one stop and one plate speed, no matter how the light may vary, all that is necessary to secure correct exposure with the Dial Meter is to take the actinic time and revolve the dial till it appears under its opening.

Our readers, some of them at least, will remember that there was a time when we were inclined to throw cold water on the employment of any kind of meter or other aid to exposure except experience, on the ground that those who lean on crutches will never learn to walk without them; and although we still think that those who, like ourself can, as if by intuition, *feel* just what is required under almost all conditions, are to be envied, such power can be the outcome of only a lengthened experience, costly both in time and materials, that we hesitate to recommend. The dial exposure meter, with the expenditure of only a few seconds of time, puts the beginner, so far as the most important of all photographic operations is concerned, on an equality with the most experienced veteran, and, therefore, we have no hesitation in saying that every owner of a camera who aims at work of which he need not be ashamed, and for which he shall not need to apologize, should make his exposures according to its indication.

Appert Glass Troughs.

GLASS vs. HARD RUBBER.—There is a glass trough made by the Appert Glass Co., 277 Broadway, in this city, that ought to be better known. It possesses so many advantages that they more than offset the first extra cost. It is made of the tough Appert glass which is no more fragile than hard rubber, with this advantage that a slight rinse is sufficient to clean the smooth glass surface between operations. The tank may then be used for stand development, fixing and washing the plates, and later for washing the prints. Suspended in the tank is a zinc frame grooved to hold 8 x 10, 5 x 7, or 4 x 5 plates. A rubber hose connects with a hole at the bottom and an overflow regulates the supply of water. The Appert Glass Co. are contemplating placing on the market trays of the larger sizes. These would be infinitely superior to vulcanite or papier mache for toning purposes.

* * *

THE S. & F. MFG. CO., Box 347, Reading, Pa., send samples of a new device for handling plates during developing, fixing, and washing. By its use the fingers need never be allowed to touch the plate or the chemicals, and it

will be appreciated by those who like to be tidy and careful in their work.

* * *

GILBERT J. MILLER, 698 N. Maplewood Avenue, Chicago, supplies at a very reasonable price a set of slides for taking six or more pictures on one plate. We could mention a great many instances in which these can be used to advantage; suffice it to say that economy in the use of plates for experimental work would more than cover the cost in a short time. We recommend the multiplying slide to every user of a camera.

* * *

FLASH LAMPS.—With the approach of winter comes the necessity of using a flash lamp if much home work is to be done. Those who do not possess a flash lamp should write to the Star Novelty Mfg. Co., Bloomington, Ill., who manufacture several patterns, from \$1 upward in price.

* * *

READY MADE ART FRAMES.—**F. H. Collins**, Nashua, N. H., manufactures a special line of frames for passe-partout work. The long evenings now coming will be well spent in framing some of our summer's pictures. Collins' frames are artistic, easily applied, and cheap, as will be seen from his adv.

Answers to Correspondents.

Correspondents are requested to notice that communications intended for the editors should be addressed to Dr. John Nicol, Tioga Centre, N. Y.

OSCAR J. MORSE.—We cannot say whether the doublet or one of its component elements will be best for your general work, as you do not give us the data on which to found an opinion, i.e., the focal length of the lens, and the size of the plate. Judging from the prints sent, however, the single lens will be very much better than the doublet, indeed, on the assumption that No. 1 was taken with the latter, we may say that although it covers it perfectly, the perspective will appear wrong on anything larger than 4 x 5. As No. 2 is considerably underexposed, you may not be aware of the fact that the stop that is with both lenses $f/7.7$ becomes with the single lens about $f/15.4$, and needs an exposure four times as long. In other

words, conditions that with the compound lens would give a correct exposure in half a second, would with the single lens require two seconds.

ARTHUR WILSON.—To be perfectly correct the stops should be a shade less than the actual figures got by dividing the focal length of the lens, as the front lens to a certain extent condenses the light. Some lens makers take this into account; but for practical purposes the figures are near enough. That is, although a stop, the opening of which is one-half inch in diameter will, from that condensation, admit more light than the theoretical $f/16$ of an eight inch lens, it is for all practical purposes $f/16$. See the new standards of the Royal Photographic Society on another page.

S. L. TURNER.—Although the lens covers the plate sharply to the edges, it does not follow that it is suitable for all purposes on that size of plate. If you had been as careful as well as a "regular reader" of our magazine you would have known that to secure a perspective that will appear correct the focus of the lens must not be less than once and a half the length of the base line of the picture; $10\frac{1}{2}$ inches for 7×5 . That accounts for the fact that, as a rule, upright photographs are more pleasing than those of the horizontal form. Lenses usually supplied with cameras are of such short focus that in the latter form foreground objects appear to be exaggerated, and those in the distance diminished, while in the former, from its shorter base, they appear more as they are. One lens is faster than another only because it works at a larger aperture; $f/5$ is twice as fast as $f/8$.

R. H. WATSON.—Yes, we have seen more than once the assertion that platinum paper spoiled by damp may be perfectly restored by a short time in the kitchen oven at a suitable temperature, but both theory and practice are against it. When platinum paper is spoiled by damp or long keeping it should be discarded. The same may be said of light-struck plates. It is said that they may be restored to usefulness by immersion in a weak solution of potassium bichromate, with a trace of a bromide; but our advice is to throw them away.

LOUIS THOMPSON.—See reply to Oscar J. Morse. So far as quality is concerned there is nothing to choose between the lenses, but 2 will suit you better than either 1 or 3, because it is of longer focus. If, however, you care to spend a little more, we should recommend No. 5 instead of No. 4 or 3, as the front and back lenses being of unequal foci, you would have three lenses in one.

HARRY WILMOT.—See reply to S. L. Turner. In listing a lens for a certain size of plate the optician does not mean to imply more than that it will cover it satisfactorily; certainly not that it is better or even as good on that size as would be one of longer focus. A six-inch lens when employed on a 7×5 plate is a "wide angle," and wide angle lenses should never be employed when it is possible to use one of long or medium focus.

ELIZA PARKER.—We, too, during this exceptionally wet season, have had the

same trouble, the test paper even in the meter becoming so affected with moisture as to turn red instead of blue, and found a remedy in keeping the discs in a cardboard box on a shelf close to the stove in the hotel kitchen. The only cure for the buckling of cardboard slides in plate holders in such moist atmosphere is to replace them by hard rubber, "ebonite." Plate holders with thin ebonite slides should not be exposed to sunlight, as that substance is more or less transparent to it.

H. WAKEFIELD.—Under the circumstances we advise you to stick to the 4×5 outfit, and from the negatives so made to make enlarged negatives by the method described in our April, May, and June numbers of last year. What you may charge depends on circumstances with which we are not acquainted, but according to our experience the higher the price the more will your work be appreciated; that is, if it be really good.

FLORENCE MARRIOT.—We must refuse to notice your prints under the suggested conditions. The object of "Our Portfolio" is to help, and we cannot do that without pointing out what we consider faults and blemishes, as well as what appears to us as beauties. A "mutual admiration" column might please a certain class of readers, but it would not improve their photography.

JOHN DONALDSON.—We have sent your letter to the plate maker, who will write you, but we hardly think your idea can be carried out. We cannot advise you on the other matter. You should consult an attorney.

MARTHA L. WATSON.—We cannot give an opinion as to the comparative value of the plates, but have no hesitation in saying that they are both excellent. The doublet is of much too short focus for the plate, but the back lens, although requiring four times the exposure, will answer admirably. We are promised a description of a simple lens shade that will help you over the difficulty.

L. R. WRIGHT.—We have no recollection of the article referred to, but if it came unaccompanied by stamps for its return, and was not accepted, it would have been thrown into the waste basket. We can always find room for suitable, practical articles; new methods, the results of practical experiments, etc., but do not care for "impressions," sentimental or emotional. •

Recent Patents and Trade Marks.

The following digests were furnished by Messrs. Davis & Davis, patent attorneys, of Washington, D. C., and at St. Paul Building, Broadway and Park Row, New York.

679,740—PHOTOGRAPHIC PRINTING APPARATUS.—G. Gerlach, Berlin, Germany.

Electric lights are supported in a closed chamber, whose bottom is formed by a glass plate, and to this glass bottom negative holders are secured. Below and close to the glass plate is an inflatable bag which when inflated bears against the plate and completely covers it. A strip of printing material is mounted on delivery and take up rolls and is passed between the inflatable bag and the negative holders. The bag is inflated to press the sensitized material against the negatives and the current is then turned on the lights in the chamber for making the exposure.

680,947—METHOD OF MAKING PHOTOGRAPHIC MOUNTS.—P. F. Stuperaich, San Francisco, Cal.

The method consists of first indenting or sinking into the surfaces of the card words, lines or characters, then applying the tint over the surface occupied by such characters, by means of a plain tint-plate having the central portion cut out, and the remaining peripheral portion carrying the tint to be applied over the portion carrying the untinted characters.

679,501—PHOTOGRAPHIC PROCESS AND PRODUCT.—L. A. Garchey, Demi-Lune, France.

The process consists in covering the plate with sensitive material containing potassium bi-chromate in which collodion and an anti-protogenic substance have been incorporated, exposing said plate, covering the same with suitable enamel powder, removing the bichromate by repeated acid washings, covering the whole with an isolating layer, and finally baking the same.

680,614—PHOTOGRAPHIC PHOTOPHONE OR SIMILAR DEVICE.—J. Polliakoff, Charlottenburg, Germany.

In instruments of the class described in combination, a lens, a vibrating mirror at its focus, a positive photographic sound record mechanically moving across the path of light between the lens and mirror, a pair of selenium-cells included in a telephone circuit and arranged to alternately receive the focused light from said mirror, screens for said cells to shield them from all light but that reflected from said mirror to the respective cells, and means for placing only that cell in circuit, which is affected by the reflected ray from the mirror.

680,203—MAGAZINE CAMERA.—C. C. Henderson, Spring Valley, Minn., assignor to the Conley Camera Co., same place.

The casing is formed with a magazine chamber and an exposure chamber which are side by side and are connected by a passage way. A sensitized-surface carrier is movable through said passage way from one of said chambers to the other and means are provided for shifting said carrier. The usual bellows is provided and is foldable into the exposure chamber, and automatically operating focus means is mounted in the rear of the exposure chamber.

679,881—CAMERA.—E. R. Bullard, Springfield, Mass.

The swing back is connected to the camera case by slidable bars which are spring pressed, and when released automatically project the swing back from the case. Means are provided for locking the slidable bars in their various positions and for pivoting the swing-back to slidable arms.

681,003—SCREEN FOR PHOTOGRAPHIC LENSES.—M. A. Seed, Woodland, Mo.

An apertured casing is rotatably adjustable with respect to the lens-tube, and a screen plate entirely covers the aperture in said casing. A portion of the screen-plate is covered with a color pigment, and said plate is adjustable transverse of the aperture in the casing.

TRADE MARKS.

36,827—PHOTOGRAPHIC PRINTING PAPER.—Columbian Photo. Paper Co., Chicago, Ill.
Essential feature, a T-shaped field or outline of the form of a large capital "T."

DESIGN PATENTS.

34,877—PHOTOGRAPHIC MOUNT.—A. B. Hower and S. J. Finch, Ostrander, Ohio.

679,271—MAGAZINE CAMERA.—C. W. Barnekov, Perth Amboy, N. J.

The case is formed with an exposure compartment into which slides a magazine containing the plates. Hinged to the side of the compartment is a ground-glass frame which is adapted to swing into position for focusing when the magazine is removed, and to fold against the side of the compartment when the magazine is slid into position. A slide closes the front of the magazine and may be removed when the magazine is in position. A device is provided whereby the plate holders may be dropped one by one into a receptacle below the magazine, said receptacle being provided with a suitable closure slide.

678,490—CAMERA ATTACHMENT.—C. F. Hug, U. S. Navy.

On the lens tube is pivoted a vertical arch-like frame which is adapted to lie flat against the lens tube to on either side of the vertical center thereof. Carried by this swinging frame is a plate which by means of a rack-and-pinion may be moved toward or from the vertical center of the lens-tube. By this means one-half of the lens may be uncovered and an exposure made, and the frame then swung over and the other half of the lens uncovered and another exposure made.

679,058—TRIPOD STAY.—G. E. Mellen, Chicago, Ill.

To each leg is secured a vertically adjustable clamp, and each clamp carries an inward-extending arm. These arms may be adjustably secured together below the center of the tripod-head and thereby bias the legs.

"THE GYPSY."
BY
F. E. BRONSON

No. 1326.

THE
AMERICAN AMATEUR PHOTOGRAPHER.

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Binocular Portraiture.

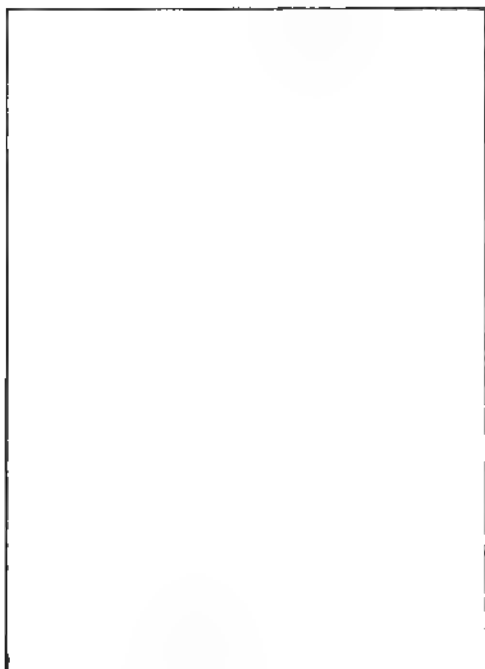
WHAT is a binocular portrait? Briefly, as recently introduced by M. Fred. Boissonnas, a print from a negative the image of which is a combination of the two halves of a stereogram.

Of course, as every one knows, no two such pictures, no matter how combined in the negative, will coincide. If the parts formed by the axis of the two lenses, or of one lens from different view-points, are brought into coincidence, the image as it approaches the slides will become more and more lacking in sharpness, but, according to M. Boissonnas, and to the examples which he shows, not beyond the true representation of things as we see them. In other words, a negative made by the superposition of two perfectly sharp stereoscopic images gives a print with just the degree of diffusion which is natural and necessary to artistic portraiture.

No. 1329. By F. C. Baker.
"SUNSHINE."
An open air still life.

M. Boissonnas took the hint from a paper read by M. Darier, a well-known artist, as far back as 1888, in which he maintained that there was evidence in the works of the "old masters" that they were painted on the lines of binocular, rather than monocular vision; but the result of his experiments was a *recovery* rather than a *discovery*, a bringing to light of something that was forgotten because it was introduced before its time.

As early as 1854, when photography had scarcely reached its fifteenth year, one of England's celebrated artists, the then Mr. John Leighton, in



No. 1373.

By W. E. Cogswell.

"THE LITTLE MOTHER."

a paper read before the then Photographic Society, showed that the insufficiency of the monocular system, the one lens in one position, had been recognized, and that Mr. Snee had overcome it. He said: "As an artist and member of the society, I can not let this opportunity pass without bearing testimony to the want supplied to photography, in an artistic point of view, by Mr. Snee's beautiful process of moving the camera, during the taking of the picture, the width of the two eyes, or about $2\frac{1}{2}$ inches, upon an axis revolving from the plane of right or focal adjustment, producing upon the single surface a roundness, breadth, and reality singularly beautiful; ordinary photographs, or

those imprinted by the rigid instrument (the lens and camera in one place) appearing flat and meager when contrasted with such," adding, "Pictures produced by the *traversing* camera, although infinitely rounder than rigid photographs, are not so round as stereoscopic pictures."

Stereoscopic photographs at that time and for long after it were generally made with a one-lens camera moved or revolved a certain distance, more or less according to the degree of roundness desired, on an imaginary center at the distance of the principal object, the afterward well-known "Latimer Clark's Table" being generally employed. It would be just the thing for binocular portraiture, and as it is not likely now to be found in any of the stock houses, we clip the following description from *The Amateur Photographer*, that any one may make it for himself:

"Four laths are fastened with hinge pins so as to form a system very much like an ordinary parallel ruler, only the links and bars are of about the same length, and for a half-plate camera, some two feet long would be a convenient length. One pair of bars, call them the links, project an inch or two in front of the forward parallel bar, and this pair is pinned

to the large baseboard. If now the camera is attached to the back parallel bar and moved from side to side, its movement will be parallel. By any suitable mechanical contrivance the four front hinge pins (two on the baseboard and two on the front parallel bar) are now brought a little nearer together, when the camera, on being shifted from side to side, will describe the arc of a large circle. The adjustment should be such that the camera describes a portion of a circle about the object as a center, and when this is the case the image will be stationary on the ground glass when the camera is shifted laterally. The usual way of effecting the accurate adjustment is to make a pencil stroke on the ground glass so as to correspond with some well-defined vertical mark on the subject, and to adjust the two pairs of foremost centers until the correspondence of pencil stroke and of the mark remains constant, in spite of the lateral shifting of the camera."

In a previous paper on "Photography as a Means to an End," Mr. Leighton had said that its greatest fault was that it did not represent the subject as seen by two eyes, and that to secure the greatest amount of beauty in an esthetic sense, it was necessary to suppress detail by a degree of haziness of focus in parts; at best an imperfect approach to what was done perfectly by binocular exposure.

Some fifty years later, in uncovering the method, M. Boissonnas says: "In the binocular portraits the central portions of the two images can be superimposed without any appreciable duplication of the finer lines, but in proportion as we approach the periphery a duplication of lines becomes apparent, and exact coincidence is impossible. Contours then become softened, sharp edges are toned down, and hard features are modified, so that a profile that otherwise would look as if cut out in

sheet metal becomes toned as if by stumping. The hair has no longer the appearance of iron wire, masses becoming the characteristic features rather than detail, and the photographer secures automatically all and more than the artist can obtain by any of the hitherto practised methods.

Making due allowance for the proverbial enthusiasm of the new convert, M. Boissonnas has shown enough to warrant our saying that binocular photography is well worth the attention of those sufficiently advanced to aim at high-class portraiture. The one thing needful is a method of revolving the camera, as already said, through the necessary distance, and with the sitter as the center, without vibration or other motion. The Latimer Clark table, properly adjusted, is as good as anything else, but anything that will answer the purpose will do as well, and we have no doubt but what a little practise will show that there is in the binocular portrait a charm altogether wanting in that of the monocular, no matter how managed.

A Differential Exposure Screen.

BY WALTER DEARDEN.

ACCORDING to promise I send you details of the shading apparatus I have been using in the camera, with the object of giving one part of the plate more exposure than the rest. I need scarcely give instances of the frequent need of such a contrivance, but for the convenience of those who have not considered the subject I append a few. Given an open landscape sunlit, a Cramer's Medium Iso. plate and a light color screen, white clouds on a blue sky in a direction away from the sun will be properly exposed in the same time that is necessary for the foreground. Thus in this Rocky Mountain country with above-named plate, a screen that only doubles the exposure, stop F. 45, such a landscape and sky require one second of time. For future reference I will call this a normal exposure. Now suppose with the same conditions a light cloud comes over the sun and it is desired to make the exposure then. The foreground will need say four times the normal exposure, but the sky only normal. If you give the sky the same exposure as the foreground, you lose it partially or wholly. In photographing toward the sun with the shadow side of everything facing you, the foreground may need say two to four times normal exposure, and the sky, brightly lighted by the sun, may need perhaps only half the normal. In case of a sunset, or when the sun is behind a dark cloud, these relative ex-

By W. Dearden.

DETAILS.—Against sun, $1\frac{1}{2}$ hours from sunset; foreground, 10 secs., F. 32; green screen (doubling exposure); sun behind cloud; sky, short second, same stop and screen. Cramer's Med. Iso. plate.

posures may vary enormously. Thus in the case of the sunset (below) which I send you, the foreground received three hundred times the normal and the sky just normal.

There are two methods by which this shading can be done. One practised more or less by most photographers is by means of the lens cap, used outside the lens. Thus by slowly raising the cap and slowly dropping it again, it is supposed that the foreground gets more exposure than the sky. If, however, you will put across the lens outside a piece of card, you will find that three-quarters to possibly four-fifths of it have to be covered, and the light which forms the picture of the foreground on the ground glass screen is correspondingly decreased, so that a very long exposure is needed for it. Then the amount of light so shut

By W. Dearden.

DETAILS.—Sun set behind dark hills, foreground, 3 secs., F. 8; green screen (doubling exposure); sky, 1 sec., F. 45, same screen. Cramer's Med. Iso. plate.

off is simply guesswork, and your success in the exposure will depend on luck.

I soon found that screening the plate in this way was not practicable, and turned my attention to screening behind the lens. In this case the unimpeded portion of the light (the foreground) goes to the plate in its original intensity depending on the stop, and you know perfectly what you are doing. Thus, if you have calculated that your foreground needs four seconds and your sky one second, you screen the sky while you give the foreground three seconds, then drop it, while you give the whole picture one second more.

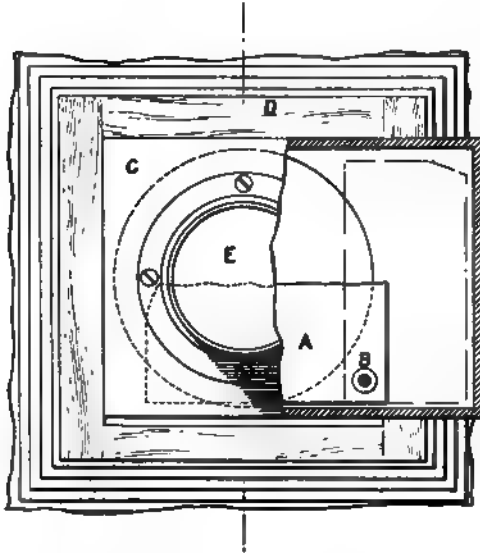


Fig. 1.

four-fifths of the image, and so that it can be turned aside when not needed. To use, it is put into place behind the lens and the effect studied. It can then be cut roughly to the horizon line and finally adjusted so that all the foreground is left exposed *with a thin fringe of sky above it*. This is important, because if the foreground is cut anywhere a dark line will be caused.

Unfortunately the modern cameras with their tiny front boards bar above plan. The difficulty may be got over by making a rectangular oblong box to fit to camera in place of its lens board (Fig. 1). Its size and shape will depend on the lens and camera employed. It will be observed that the flange for lens (E) is placed eccentrically, so as to leave room for the paper screen (A) to be turned out of the way of the lens; (C) is a movable lens board, which can be taken out readily to get at (A) to shape it. The box should be deep enough to allow (A) to be in place about an inch behind the lens; (B) is the milled head or handle to turn the screen with. (B) Fig. 2 shows rod and handle which go light-tight through the front-board with two flanges, one on each side of the board, ending with a small

Now for the method of doing this. If you have a sensible camera with a wide front the matter is very simple. Make a hole through the lens board near the flange and pass through it light-tight a brass rod (B) bearing at the outer end a milled head or other convenient means of turning it, and the other end threaded and fitted with a flange and nut to screw on. The rod should be of such a length as to project about one inch behind the rear lens. A bit of card, or, better, thick blotting-paper, stained with ink, is then fitted on the screwed end of rod and fixed by the nut. It must be of such size and shape as to cut off about

Fig. 2.

flange against which is screwed the screen (A) secured by a nut. The hole at the back of the box must be as large as possible to avoid cutting off any light. A lens-board belonging to the camera is fixed to back of the box.

Sometimes it is a very simple matter to shape the screen, and generally it is not very much trouble. If thick trees form part of the horizon line the screen must be cut out roughly to fit. A long spindling tree or similar object would probably make the process impracticable. The plan then is, after having shaped the screen to cut off the sky close to but not exactly at the horizon, to cap the lens or close the shutter, get the plate into position, give the foreground its fractional part of the required exposure, cap the lens, turn the screen by the outside milled head out of the way, then expose again for sky and foreground together. Of course the camera and stand must be very steady and well fixed, especially if the shutter has to be set between the exposures.

Another method is to hinge to one of the folds of the bellows inside the camera by means of rubber solution and strips of canvas a wire frame to carry the screen, and through the front-board to pass a small tube bent outside at right angle toward the ground. Through this is passed a black thread fixed at one end to the screen. By means of this thread the screen can be pulled up into position and its loose end secured to some convenient place. On releasing the thread the screen will drop.

National Photographic Record Association.

THERE is a movement on foot to establish an association for the preservation, by photography, of the most important landmarks and historical buildings throughout the United States which will greatly contribute, in a pictorial way, to the education of future generations and be a record of value. It is proposed to have one central locality like New York for the reception of negatives or platinum prints where they will be kept in tabulated order. Such a comprehensive system would be useful in many ways, aside from its historical value, since contributions could be made to public libraries throughout the country, where could be kept pictures of their own locality as well as neighboring places.

Much has been done in England in making photographic surveys, by photographic societies. The latest movement in this country is that promoted by the California Camera Club, of San Francisco, Cal. The President, Mr. John Erwin, issued a circular appointing two days in October to be devoted to photographing the various sections of the city, and called for a large corps of workers to be prepared, each to take at least twelve different photographs. Seventy-five members of the club responded to his call and obtained many hundred views of street and water scenes. Each one is to supply two prints and possibly a lantern slide from each negative. Through the medium of the American Lantern Slide Interchange it is expected a set of slides made from this series will bring before the various sections of the country the beauties and peculiarities of the city. We presume the percentage of failures will be small on account of the ability of those who volunteered to do the work, and await with interest the result of the experiment.

Lantern Slide Making.

NOTHING short of belief in the necessity of the case would induce us to return to what so many of our readers may consider a hackneyed subject; but while a good lantern slide is at once one of the most beautiful and, from a suitable negative, the most easily produced of all photographic productions; ninety per cent. at least, of all that we see, including even those by members of societies and clubs that have been for years in *The Interchange*, should never have been thought worth mounting.

No. 1336.

"IN THE SHADOW OF A HILL."

Catherine Soper.

Although we have again and again said all that can be said about the making of a good slide, necessity, as we have said, induces us to say it once more, and we say it now because by the time this reaches the hands of our readers they will or should be looking over the negatives made during the more favorable times, and preparing to make slides from them.

The first essential in slide-making is that the maker should know a good slide when he sees it, and be able to recognize the only kind of negative from which good slides can be made.

A technically good slide, and it is only technique that we are dealing with now, should include every degree of gradation from the deepest dark,

which is complete opacity, to the highest of high lights, which is clear glass, that was in the subject; but as there are few of either of those extremes in nature there should be as few in the slide; indeed, there is but a small percentage in any collection that should contain a trace of either. It should be a Mede and Persian law in the mind of the slide-maker that unless there be in the subject an object purely white and without

No. 13:8.

By H. Wenzel, Jr.

"CHILDREN ON THE SANDS."

shadow, or purely black and without a touch of reflected light, there shall not be a part of the slide through which at least some of the projecting light shall not pass, or a single spot of clear glass. Professional slide-makers are the greatest sinners in this respect, but they have a reason for their sin. They work for the public or the public entertainer, and the lanternist knows that, in an exhibition to an ordinary audience, it is the hard white and black, the "summer snowiness" or "soot and whitewash" that "brings down the house." But the amateur that works to please himself, and has already done so much to elevate the public taste, should aim at leading to a higher appreciation of true gradation in lantern slides.

Some time ago we had the pleasure of sitting beside one of New York's well known artists listening to a lecture by one of New York's popular clergymen on one of his vacation tours, and seeing the slides by which it was illustrated. The slides were generally of the commercial variety, and while they gave a fair idea of the places and people of which the lecturer spoke, and evidently pleased the less cultured of the audience, they brought many a smile to the face of the artist, and not unfrequently something like a sneer on ours. But there was one exception, one slide that was worth going far to see. It was an interior, a part of a cathedral; simply a little corner with a confessional box and a kneeling figure. But the suggestion of "the dim religious light" was perfect and the effect almost sublime. A ray of sunlight from an unseen window fell on the figure, and although the black dress was surmounted by a broad white collar, so perfect were the values and the suggestion of colored light that the one was grayed up and the other grayed down.

When the audience had dispersed my friend said, "Let us go up and

congratulate him on the 'penitent,' " and on our doing so he replied, " Well, you amaze me. The fact is that I made that slide myself. On an earlier visit to the cathedral I was so struck by the possibilities of that corner that I induced my wife to dress for the picture and tempted the acolyte to find me an opportunity for the exposure of a plate. As he was nervously afraid of the appearance of some of the powers that be, the exposure was hardly as long as I could have desired, and the slide is so fogged and so unlike the rest of the set that was collected during my tour from some of the best slide-makers in the world, including Wilson, York, and Valentine, that I have only shown it once before." Sure enough, the slide was fogged, but only to an extent that made it the beauty that it was, and the exposure had been so suited to the developer as to give every degree of gradation that was in the negative.

Hardly less important than to know a good slide when you see it is to know the kind of negative that will give a good slide. In the first place, it must be one that has got at least a sufficient exposure to give the necessary detail in the shadows, as such parts as are represented by bare glass will in the slide be sufficiently opaque to be simply black on the screen. Then, development must not have been so pushed as to make any of the lights, except the very highest, so opaque as to exclude all of the light employed in printing. In other words, no part of the negative should be completely opaque except the very highest of high light, and of that, as we said, there is little or none in nature. The most suitable negative is one that is rather on the thin side, full of delicate detail and gradation; the negative, in fact, that will give the most technically perfect print on the modern gelatino-chloride paper.

The knowledge and the negative having been acquired, the next step is to decide as to the developer that is to be employed; as in slide-making, the exposure should be made to suit the developer, not the reverse.

" REVERSE."

Just what the developer should be is of less importance than that it should be a fixed quantity, nor is there any particular reducer or formula that can be said to be better than any or than all others. All we can say is that the following has with us and with many others answered the purpose admirably:

Ortol	160	grains.
Potassium metabisulphite	80	"
Potassium bromide	40	"
Sodium sulphite	2¼	ounces.
Sodium carbonate	1½	"
Water to make	10	"

This will make a stock solution, each dram of which contains two grains of ortol, and which, added to seven drams of water, makes our usual developer.

From the foregoing it will be evident that correct exposure is the keynote to success in slide-making, and that no effort should be spared to secure it. A writer in *The Camera Club* (English) journal, who is a first-class slide-maker, said that he was satisfied if he got one good slide from a dozen plates, but we hardly care to be so extravagant, and therefore, to ascertain just what the right exposure should be under any particular circumstances, conditions of light, plate and negative, we expose one plate in strips, not cutting it, but in a printing frame roughly adapted to the purpose, a piece of ferrotype plate in which is a slit three inches by half an inch being made to slide across the plate to be tested; and making five exposures, two above and two below what we may guess to be about right.

On development, or rather during its course, it is easy to see which of the five is nearest to what is required, and equally so to arrive at what will be absolutely correct. On a correctly exposed plate the deepest shadows will first appear, and be followed in their order of intensity up to all but the highest lights, and notwithstanding the fact that the deposit is cumulative, none of the shadows except the deepest, if there should be such, will be quite opaque before the necessary detail is developed. In other words, if the plate has received a correct exposure and the development has been arrested at the proper time, there will be no clear or bare glass except on the highest high lights and no shadows so dense as not to transmit some of the projecting luminent except the very deepest of deep shadows, neither of which are found to any great extent in nature, and both of which should be as rarely and as sparingly found in the slides.

Next in importance to correct exposure is the extent to which de-

velopment is carried. An unwarranted fear of fog induces most slide makers to stop too soon; to stop while most of the lower tones are still bare glass, instead of going on till the shadows have the necessary deposit; and it is all the greater folly to do so, not only because a trace of fog not unfrequently makes all the difference between a good and a bad slide, but should development be found to have been carried too far it is easy to bring it back to tolerably correct gradation by one or other of the well known methods of reduction; Farmer's, which attacks both the weak and strong parts alike, or the ammonium persulphate, which deals mainly with the denser parts.

But, in spite of care both in exposure and development, it may be that on drying, the slide is not just as it should be. The shadows may be all right in their gradation, but what should be merely lights more or less translucent are only bare glass, making what should be a sunny landscape appear on the screen as if covered with snow. In most cases this may be made into a good slide in the following way: Place the slide and a plate into the printing frame, using the slide as if it were a negative, and expose for a short time to the light. The exposure will depend on the amount of deposit desired, and should be such as when developed and fixed will leave sufficient to give the necessary lowering of the lights when the plate is used as a cover glass.

So far, in dealing with exposure, the reference has been to "printing by contact," the result of which, notwithstanding what has been said to the contrary, is in every respect as good as that from copying in the camera. But as the former method is applicable only where the negative is of a suitable size or where only a suitable part of a larger negative is wanted, the latter must be employed where reduction or enlargement is necessary.

While the ordinary copying camera, or one of those made for the purpose, costing from ten to twelve dollars, is doubtless more convenient, the simple arrangement shown herewith, and which we have employed for years, will be found in every respect as efficient. It speaks for itself, although we may say that the camera is our ordinary 5 x 7 in., with a 5 in. lens; and the baseboard 25 x 10 in. The negative holder, with kits, will take negatives from 8½ x 6½ in. down, and the larger sizes may be moved and masked so as to admit of printing from any desired part.

For contact printing artificial light is best because easily made constant. An ordinary kerosene lamp with a one-inch wick leaves nothing to be desired, although we now employ an acetylene flame; but for camera copying daylight is preferable. All that has been said about the necessity for correct exposure in contact printing is equally applicable to

that by daylight, and it is perhaps a little more difficult to ascertain just what it should be. But as one really good slide is worth dozens that are not so, it is better to use a few plates in seeking for it than to waste many in merely guessing at it.

SLIDES BY COPYING IN THE CAMERA.

A Snow Blizzard at the Grand Canyon.

BY E. M. MILLER.

THE WRITER ENJOYING THE COMFORTS OF
THE BRIGHT ANGEL LOG CABIN.

At sunset our stage drove up to the Bright Angel Hotel, at the very edge of the Grand Canyon of the Colorado. Before us lay the mighty panorama in all the brilliant coloring given by sunset lighting. The edge of the canyon is called the rim; and the rim stretched away to the east and west in long, broken curves, each bend of which was several miles in length. Across the chasm appeared the opposite rim, seemingly a straight line, but really with similar curves. It was

over a dozen miles away, and the forest trees upon it could hardly be distinguished. On both sides of the canyon, over the nearly level plateau, extends the Government Forest Reservation—mile after mile of trackless woods. We must penetrate these woods to the rim of the canyon before we have the slightest suspicion that one of Nature's most gigantic productions lies before and beneath us.

Standing on the rim at sunset, seeing the canyon for the first time, with expectations keyed to the topmost notch by what I had heard, I was disappointed only by the very imperfect idea I had formed. I realized in a moment the futility of any camera picture, any word description, or any painting, in adequately conveying an impression of the Grand Canyon.

The next day I viewed in daylight the Grand Canyon, or rather the great combination of grand canyons. Indeed, it is more than canyon; it is a series of tree-fringed cliffs of towering peaks, of mountain-like buttes, not seen from their bases, but looked down upon. Giant buttes rise out of the canyon, many of them nearly to a level with the rim. They seem to fill the canyon, but the distances are so great one can not calculate. Two huge buttes at a distance of twenty miles seem to be attached at their bases. In truth, they are miles apart; the river may flow between them.

The rock-coloring is wonderful and ever-changing: red, gray, brown, and yellow, and slight variations are the colors of different rock-strata. Red predominates. A bluish tinged atmosphere fills in the space between the rims, bluish from depths, I suppose. I know of no other reason.

At many points one can look straight down hundreds of feet, and all along the rim are broken masses of boulders. Just beyond O'Neil's Point, a hundred feet below the rim, is a balanced rock. The view from the rim was not satisfactory for camera work, so I attempted to get a view *looking up*, thus bringing the outlines of the balanced rock against

the blue sky. This necessitated a climb down to the very verge, or "jumping-off point," as we called it. First, the vertical top layer of broken boulders ten feet down had to be passed with the assistance of brush and pine trees which grew from the rock; then down a very steep incline covered with an inch of snow, which fortunately had a frozen crust, thus rendering a foothold easy. There were also a few pine trees and scattered clumps of sage-brush. Keeping near these gave a *feeling* of safety, and they were of considerable assistance in the climb out.

That evening Mr. Charles A. Bailey, of San Francisco, a member of the California Sierra Club, arrived at the hotel. He was desirous of

By E. M. Miller.

"BALANCED ROCK."

camping out down in the canyon a few days. I desired just such an experience, and we soon had a journey arranged for the following morning. Our outfits consisted of blankets rolled up like a strip of carpet, with provisions and cooking utensils in the center. A rope was tied around each end. These bundles weighed about thirty pounds, and were carried over the shoulders. In addition, I had my camera and plate holders.

We started at 9 A. M. The day was cloudy and threatened snow and rain. That did not worry us much, as during a storm several days before but an inch of snow had fallen. The trail passed down at an easy grade through the wooded portion of the rim. The snow had melted in places and made the trail icy. But the "snow rim" extended down only about a thousand feet. The easy grade did not last long; we soon came to the "real thing." Here the trail might be described as a winding stair without steps, doubling back under itself in a zigzag manner, with an occasional long incline winding around a projecting cliff. At one place the trail was blasted out of the side of a precipice. Half way down it turned abruptly back under itself. Steps were formed by logs placed crosswise several yards apart, fastened down and filled in with more or less pulverized stone. The turning point was a little icy, and exceedingly dangerous. We called this the Giant's Stairway. Half way down we passed the blacksmith shop. This consists of an anvil and a few tools under a rock.

At noon we came to the Willows. Here we started a fire and had

dinner. This is one of the few points where water is found above the river. (Water was hauled by rail and wagon a hundred and fifty miles to the hotel on the rim.) Here, something over four thousand feet down, were several large springs of good water. One of these springs ran through an irrigation ditch over half a mile long, built long ago by the Indians.

The Willows were at the top of a mesa, which gradually sloped away several miles until it came to the granite in the center of the canyon. In a channel through the granite two thousand feet deep flows the Colorado River.

We had been told there were three miners several miles down the canyon prospecting. Our objective point for the day was their camp, and we started on our way down the mesa. This is covered with bunch grass and sage-brush, and is used as a pasture for the hotel horses. The grade toward the river is easy, and up and down the canyon practically level. Should minerals of great value be discovered in the canyon, a railroad might be constructed along this mesa. The main expense would be tunneling projecting cliffs and bridging the innumerable but by no means insignificant side canyons.

After we had walked over three miles it occurred to us we might open communication with the miners by shouting. Each of us gave full play to his vocal organs. The sounds echoed and re-echoed from the cliffs. Presently, out of a canyon barely visible, which ran down in the granite, came answering calls. Very welcome sounds indeed in that great solitude. We continued our march half a mile and came to the edge of the canyon, and again shouted. Immediately from the opposite side came back an answer. Then we saw the men across the canyon several hundred feet below us building a trail along a narrow inclined ledge situated midway between the bottom of the canyon and the top of the cliff. Vertical walls hundreds of feet high extended below and above them. They appeared as mere specks against the gigantic surroundings; yet this was only a side canyon cutting its way

By E. M. Miller.

A CANYON CLIFF TAKEN FROM THE FOOT OF THE MESA,
OVER 4,000 FEET DOWN.

through the granite into the main canyon of the river. The miners were working a new trail along the cliff side down to the river, where crossing in a boat would be easy. They intended to spend the winter prospecting on the other side. They were working away carelessly but rapidly along the dangerous ledge. Disintegrated stone and boulders had fallen on this ledge, forming a steep incline from the top of the canyon walls to the sides of the cliffs. The ledge was narrow, at places not over twenty feet. A large boulder lying in the intended trail would be slightly loosened and pushed, and down it would go to the bottom of the canyon, sending back a roar of echoes. After clearing away the larger rocks the men unconcernedly shoveled the dirt aside,

By E. M. Miller.

A SIDE CANYON CUTTING THROUGH THE GRANITE TO THE MAIN RIVER CANYON. TAKEN FROM THE FOOT OF THE MESA, OVER 4,000 FEET BELOW THE RIM.

making a narrow footpath. A slip or a stumble would mean almost instantaneous death of a kind so horrible that the imagination sickens to dwell upon it. We could converse easily across the canyon, but as night was coming on, we soon continued our journey. After a long walk we came to the head of a canyon. Following this down between two cliff-like walls, we soon found it was only a *little side canyon* to the other *large side canyon*. We came to several basins of clear, ice-cold water, being snow melted at the rim and percolated down through the rocks. The bed of this canyon was composed of marble, the impenetrability of which probably accounted for the water coming out instead of going on down.

Fifty feet above the water basins was a large layer of overhanging rock, forming a natural camping place. The floor beneath was dry and covered with pulverized stone. The Grand Canyon is full of such natural shelters. This one had been used before, which was shown by the ashes of several camp-fires. As we were tired we decided to camp here and reach the miners the next day.

The sun had passed behind the rim cliffs, and an even, diffused light filled the canyon, and we could now to an extent comprehend it. Standing on the rim we saw before us a series of precipices, the upper one appearing the greater, but it is a plaything as compared with those beneath—only a very thin leaf in this great book of nature. From our present point of view, and in the evening light, all the mighty outlines appeared. For pure sublimity this canyon is surely one of Nature's masterpieces. Before us stood a mountain of a series of perpendicular precipices, extending to a great height; but far above this, away up in the sky, appeared small round projections of grayish stone covered with black dots. These were the great rim cliffs, and the dots were trees. The lower mountain stretched before us in a great half circle. One would judge the distance from the right cliff around the half circle to the left cliff to be half a mile. In reality it is not far from half a dozen miles. Looking up and down the mesa, at the foot of which we were camped, we could not realize a canyon. We seemed to be among several ranges of cliff-like mountains. From the rim it can be seen as a canyon of VAST IMMENSITY. But from below, looking up, the canyon loses its identity; one dimly takes in the great perpendicular heights, tier after tier of straight-walled cliffs.

After establishing camp I took a stroll down the canyon. The bottom was narrow, filled with large marble boulders worn smooth by water and now wet with melted snow and rain. At one place a single massive boulder filled the gorge, the last of the marble, below which all water disappeared. A tree grew near the top, and to this tree was fastened a strong rope. The three miners climbed up this rope, a height of twenty-five feet, to get water. I went down this rope and was soon out in the large canyon. I walked down this canyon until I came to the newly-made trail, followed it a mile, and came to where the men were working. Unfortunately I did not bring my camera from camp, and thus missed getting a unique picture of the trail builders in their dangerous position.

Returning to camp I found supper ready, after which we enjoyed a genuine camp-fire for an hour. We then rolled up in our blankets under the rock, but I did not sleep. A dim sense of uneasiness, along with the coldness of the rock upon which we lay, kept me awake. We were in a different world, isolated from the outer world of human activity. The only possible outlet to that outer world was a single narrow steep trail. The awful depths, the terrible grandeur surrounding us, among which we were but tiny atoms, the unbroken stillness and loneliness, kept me, if not exactly terrified, yet in an unpleasant imaginative activity. Suppose a heavy snowstorm clogged up the trail with snow drifts; suppose an avalanche should tumble down the cliffs and obliterate the trail; suppose (material supposition!) the mountain rats

and mice ate up all our provisions? All suppositions that had some foundation in fact, and a great deal more in fancy.

At two o'clock in the morning, not being able to sleep, I got out from under the rock to take a moonlight stroll in the canyon. When behold! The cliffs were white with snow, and it lay on the mesa not over half a mile above us. A misting rain (melted snow) was falling in our canyon, and cold blasts of wind suggested visions of a blizzard upon the rim. The prospect of getting snowbound in that terribly isolated canyon was entirely too realistic, and we decided to start out at once. We could reach the Willows by morning, and the climb out from that point through snow drifts would be a hard day's work. To await until morning at our camp would make the climb out that day

"THE BEGINNING OF THE TRAIL."

By E. M. Miller

impossible; so we packed up our blankets and started. Enough light from the moon penetrated the clouds to render the trail barely visible. Occasionally we would lose it, but at once became aware of the fact by the softer soil giving away beneath our feet. Then we would stop and scramble around among the sage-brush until we found it.

The first few miles were easy, as the snow was not deep. Then we got up into deeper snow, and into a snowstorm. Mr. Bailey walked very slowly and rested frequently. He had been in such places before; I hadn't. Every minute the snow was getting deeper above us, and the climb harder. I thought we ought to make better time and rest *after we got out*. He declared he was taking the "winning gait." After it was all over I had very much more respect for the "winning gait," but in

the face of that storm, every gust of which brought down fresh clouds of snow, the "winning gait" did not suit me. I wished to get out as soon as possible. I worried Mr. Bailey and his "winning gait" worried me, and we finally decided each to take his own pace. I knew if we both got snowbound on the trail we could expect no help, as the people at the hotel were expecting us to stay several days in the canyon, but if one got out it would be an easy matter to get help to the other. So, without feeling I was deserting, I started at a more rapid pace. That was very slow, as every foot of distance represented half a foot of rise. In an hour I was far above Mr. Bailey. Occasionally I could see him leisurely climbing the narrow trail, a mere speck on the white snow.

Coming to a rather steep grade I abandoned my blankets; at another steep grade I left my camera. I became thoroughly exhausted during the last mile, and began to think I would never get out, but I was nearer the top than I thought. All at once the rim trees loomed up, dim, dark forms, in the drifting snow. A very welcome sight they were. A regular snow blizzard greeted me as I emerged from the last stretch of trail; and half dead and covered with frozen snow I tumbled into the hotel cabin. A dozen miners and hotel men encircled the huge cabin stove, enjoying its radiating heat. I suppose I gave out an exciting story of getting lost or stranded on the trail; I do not remember just what I did say. At any rate, three men started down the trail to give Mr. Bailey assistance (which he did not need), and I gave them ten dollars to bring out my camera.

The next day, Sunday, we were blizzard-bound at the Bright Angel Hotel. But plenty to eat, plenty of dry fuel and good beds certainly had more elements of safety and comfort than the uncertainties of the Grand Canyon.

THE C. P. Goerz Optical Works are now fitting a new plate attachment to the No. 3 Eastman Folding Pocket Kodak, so that both plates and films can be used where heretofore films alone could be used. The advantages of using a plate attachment of this description are that pictures can be focused on the ground glass, that all kinds of plates can be used, whereas there is only one kind of film made; also the saving of the cost of material when it is desired to make only one or two exposures. The holders are of metal, very compact, and the spring-actuated ground glass adds not over half an inch to the bulk of the camera. Write for further information to the C. P. Goerz Optical Works, 52 East Union Square, New York City.

We regret that through an irregularity, incident to the holiday times, the article, "The Tourist Photographer," by Sir William Abney, appeared in our October number without acknowledgment. It was extracted from our esteemed contemporary, *Photography*, the genial editor of which will obligingly deal with it as a "first offense."

Some Principles of Exposure.

BY ALFRED WATKINS.

THERE is very little difficulty in getting a good print by any process if a technically good negative is first secured, and it is usually agreed that a reasonably correct exposure goes a long way toward securing the good negative.

The time has gone by for the expert to put on a wise face when asked about exposure, and to say that "nothing but experience" would help the beginner, which is merely another way of intimating that, working by "rule of thumb" himself, he is incapable of communicating exact information to others.

The great want of exact information on exposure gave rise in England to compilation of exposure tables, commencing about 1886 with tables of different subjects and styles by Burton, which were afterward combined with light tables (first compiled by Vogel), giving the estimated actinic power of the light at various months of the year and hours of the day. In England these tables, although filling a want for some years, have gradually been superseded by the method of making an actual test of the light with an actinometer, and from this test as a basis, calculating the variations due to different speeds of plates and different apertures. The combined instrument which combines the actinometer and the calculating scales is called an exposure meter.

Many fall into the error of supposing that because all exposure tables and instruments deal with the three main factors of light, stop, and plate, that all are based on the same principle, and except for convenience it does not much matter which is used.

The object of this little article is to point out the fundamental difference between the exposure table plan and the plan of making (as a basis of the calculation) an actual test of the light falling on the subject first introduced by me in 1890.

We will presume (for the sake of illustration) that we are in an open field on a day when the light comes from fleecy clouds in the sky, the sun being behind these clouds. We will also presume that the exposure table has made a correct estimate of the light according to the month or time of day (it is, by the way, not quite safe to presume this, for atmospheric influence alters the actual power of the light very much). We will also presume that we keep to one speed of plate and one stop, and that these influences need not be considered.

Now let us glance at the remaining influences which may require an

alteration of exposure. In Fig. 1 let S represent the subject to be photographed. For the sake of simplicity it is presumed to be a small object, such as a bush, vase of flowers, or carved stone. It is receiving the maximum illumination from practically the whole of the vaulted sky, the angle of illumination being marked by the dotted lines. In Fig. 2 all

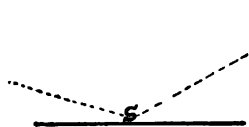


FIG 1

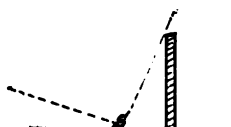


FIG 2.

the circumstances are exactly the same except that a tall object (it is shown as a wall, but it might be a tree, or hedge or building) is close against the subject, which is consequently (as indicated by the dotted lines) illuminated by a much smaller area of the sky, and requires a longer exposure. In Fig. 3 it is presumed that another tall building or wall is erected on the other side of the subject (as would be the case in a street view), and that the amount of sky throwing light on the subject is still further curtailed and the necessary exposure lessened. The dotted

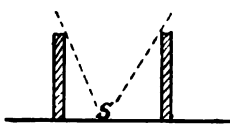


FIG 3

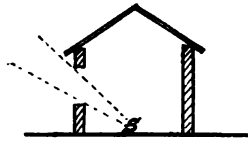


FIG 4

lines again indicate the angle of sky light. In Fig. 4 it is presumed that end walls have been built, a roof thrown over the whole, and a window made in one of the walls. The amount of sky light falling upon the subject S is now enormously lessened, and will depend upon the number, size, and distance of the windows of the building and whether the sky illuminating the windows is obscured by trees or buildings.

Now let us examine the way in which the "exposure table" system treats these alterations in the surroundings of the subject. It does so by classifying subjects as "Open landscape," "Landscape with buildings," "Under trees," "Portrait near window," "Light interior," "Dark interior," etc. The extreme range of difference between the first and last being given as 1 to 1,000, these figures will give an idea of the importance of this aspect of exposure. Bear in mind that the classification entirely depends upon judgment.

Now, as a contrast, let us see the way in which the actinometer method I introduced treats these important variations. No alteration at all is made in the subject value on account of variations such as I have described. By following the invariable rule to "Test the light which falls upon the shadiest part of the subject in which full detail is required," the actinometer takes fully into consideration all the physical obstructions which limit the amount of light. Not only so, but this one test makes it unnecessary to consider time of year, hour of day, and whether

sky or sun is obscured. It takes every circumstance of lighting into consideration, and no variation need be made for the character of the subject unless it has unusual reflecting power, as for sky, sea, snow, and glacier scenes.

So much for the treatment of the light question, which is exactly valued by the number of seconds required for the actinometer to darken. Two other factors, speed of plate and size of diaphragm, must also be considered, and from these three values the fourth, exposure, is estimated by a slide rule calculator. It is impossible to estimate an exposure without considering the four entirely distinct values of light, plate, stop, and exposure. The method of calculating which comes first to hand is to use the common carpenter's slide rule plan of two rows of figures, working the four values backward and forward on these. As four values have to be picked out, I have never considered that there is any real gain in simplicity in picking them out from two rows of figures instead of from four rows. I have therefore always preferred the plan of having a separate scale for each of the four factors, even at the risk of an appearance of complexity. In the new dial meter I reap the advantage of adhering to separate scales, for only the four values actually required appear in sight, and each one is distinctly labeled. The mass of figures all tending to confuse the eye is hidden from sight.

The San Francisco Photographic Salon, 1902.

THE California Camera Club, in conjunction with the San Francisco Art Association, encouraged by the success of their first, have decided to hold a second Salon, and issued the following circular to which we gladly give publicity. While there is much good work done in the West, sufficient to make an excellent exhibition for themselves, we hope our Eastern workers will not give cause for the complaint made by at least one of our contemporaries, to the effect that they have practically boycotted the Chicago Salon. Art, in the truest sense of the word, is not local, not even national, and there is as much to be gained by exhibiting as by studying the exhibits.

The labor and anxiety incident to the getting up of a salon is known only to those who have had a hand in it, and they deserve the encouragement of every lover of photography as a means of picture making.

ANNOUNCEMENT.

The California Camera Club announces that in conjunction with the San Francisco Art Association, the second San Francisco Photographic Salon will be held in the galleries of the Mark Hopkins Institute of Art,

in the city of San Francisco, beginning January 9, 1902, and continuing two weeks.

The object of this Salon is to exhibit that class of photographic work which shall best exemplify artistic feeling and execution, without regard to particular schools or fads; the pictures will be selected by a competent committee of artists and photographers appointed by the San Francisco Art Association and the California Camera Club.

Exhibitors of pictures which have been hung in other salons and exhibitions are specially invited to contribute.

RULES AND REGULATIONS.

All pictures must be either framed or matted under glass.

All transportation charges must be paid by exhibitor. An exception to this rule will be made in the case of foreign contributors, who may send their pictures unmounted if they so desire, the management undertaking to suitably mount those selected, and to return the entire contribution after the exhibition, free of expense.

No prizes will be awarded, nor will any fees be demanded of exhibitors.

The title, the exhibitor's name and address, and if for sale, the price must be written on the label provided and attached to the back of each picture. Nothing shall appear on the front of the picture except its title and maker's name.

Each picture submitted must be entirely the work of the exhibitor. Pictures will not be received bearing the names of firms or galleries.

All pictures submitted for exhibition must be addressed "San Francisco Photographic Salon, Mark Hopkins Institute of Art, San Francisco, California." and forwarded at owner's risk, charges prepaid, and delivered at the Institute not later than December 10, 1901.

From the price of any pictures sold during the exhibition ten per cent. will be deducted.

No picture shall be removed from the gallery until after the close of the exhibition.

The management will not be responsible for any loss or damage that may occur; at the same time, all possible care will be taken to prevent any.

To each contributor whose work has been accepted a catalogue will be mailed as a notification of such acceptance.

All communications must be addressed to the Executive Committee of the San Francisco Photographic Salon for 1902, 819 Market Street, San Francisco.

Clouds in Lantern Slides.

BY A. M. BARRY.

THERE are few lantern slides that would not be benefited by the introduction of a suitable cloudy sky, and almost as few into which it could not be introduced with very little trouble.

Slides the skies of which are represented by bare glass—and they are largely in the majority in this country—need no further preparation, but are ready for the application of the clouds at once, and the deposit in those that have been toned down is easily removed by the local application of Farmer's or other reducer.

The first essential is a good supply of cloud negatives, the more varied the better, as although the sky of one particular negative might be equally suitable for a number of slides, variety in the skies is as necessary as in the subjects included in an exhibition.

As by the method that I advocate, the clouds are printed on the cover glasses, and in binding the film of the cloud is placed in contact with the film of the slide, it will be evident that if printed from the same negative or in the same way from any two negatives, one or other will, on the screen, be reversed. Where, therefore, the printing is done by contact, and the slides from negatives on glass, the cloud negatives must be on films capable of being printed with the celluloid or whatever the film substance may be, in contact with the plate which is to be the cover glass. Or, where cloud negatives on glass must be employed, recourse must be had to stripping—an operation easily accomplished by any of the various methods that have from time to time appeared in this journal, one of the best being that recommended by "Roy," on page 124 of the 1898 volume. The stripped film may either be strengthened by being brought into contact with a slightly moistened sheet of gelatine so as to be available for printing from either side, or transferred, reversed, to a glass plate.

Where the copying is done in the camera no such difficulty is found, nor is stripping required, as it is only necessary to expose the cloud negative through the glass; that is, with its film side toward the light instead of toward the lens.

Whichever method may be adopted, better results will be obtained by the making of many cloud covers at one time, when "the hand is in," than when they are made singly, one or two just as they are wanted; and for most subjects exposure and development should be such as to leave

the cloudy sky on the thin rather than on the dense side; for some subjects indeed they should be hardly more than indicated.

With a stock of cloud covers on hand there need be no difficulty in selecting one for any particular slide. It goes without saying that the sky with its contained clouds must be lighted from the same direction as the objects included in the slide, but there are other considerations that, not being so patent, are too often neglected. Not the least important of these is what may be called the *expression* of the sky; the impression that it conveys through the eye to the mind as to the time, whether late or early in the day; and even, although in a less degree, as to the season. The "expression" may also include hints as to the recent past, the present, or the more immediate future conditions under which the sky was photographed, and should be such as is in keeping with such conditions in the slide which it is to adorn.

A suitable cloud or sky cover having been selected, it should be placed in contact with the slide, film to film, and the horizon line of the latter roughly outlined on the glass side of the former. For this purpose nothing answers better than Faber's "glass pencil," with which it is as easy to write on glass as to write on paper with an ordinary pencil. In making the outline no notice need be taken of trees or objects that are transparent or lightly translucent in the negative, as being darks in the slide, the cloudy sky will not appear behind them; indeed, the outline can hardly be too roughly drawn. All below the outline should now be removed by any convenient reducer; I generally employ either Farmer's or the ammonium persulphate, and washing in a few changes of water completes the cover glass.

The slide and its cover may now be bound together in the ordinary way with a suitable mat between, but the slide-maker, who is also an attentive observer of nature, may see possibilities of still further improvement. He knows something of the additional beauty that comes to his landscape in the ever-changing light and shade from a cloudy sky, and desires to introduce some of it into his slides. For this purpose the "Agfa," or some other one-solution reducer and intensifier may be employed with advantage. A few strokes with a brush of suitable size charged with the intensifier will deepen a shadow or make one where a passing cloud shows that it should be; while the reducer, applied in the same way, will increase the intensity of lights already there or produce them where they are indicated.

In this way, with a minimum of labor and skill far less than the description would lead one to believe, slides that were barely passable may be made to appear on the screen as if of the very highest class.

Contribution Box.

THE SIDEWALKS OF NEW YORK.

THERE is no branch of our avocation which offers a wider range and brings more satisfactory results than the pictorial rendering of street scenes. One worker may prefer marines; another his flowers and birds; but what can surpass the portraying of human nature as we see it in all its naturalness and reality on the sidewalks of New York? East side, west side, all around the town, are hundreds upon hundreds of pictures if one but look for them; old apple women, newsboys, boot-blacks, hurdy-gurdy men—the list is endless. The other day, in City Hall Park, a little newsboy, tired of yelling “Extra,” was resting under the shade of a tree and devouring the news with the intentness of a digest editor. Here was a subject for the lens artist.

Now let us consider a few points regarding street photography in practise. A reflex or twin-lens camera is the best for this class of work, but a fixed focus camera, the average kodak, for example, is a close second. If a kodak is used, however, it should be fitted with a double lens, as the ordinary single lens working at F. 16 is too slow for anything but work in the sun.

When working in the shade we must be particular about the lighting. We must use the small amount we have to the best advantage. We must be particular to observe the *direction* from which *most* of the *diffused light* comes. For instance, do not photograph a person on the shady side of the street with the sunny side as a background unless you desire a silhouette.

In regard to lighting, remember that it is not necessary that a *face* should always be represented as a *light* tone in a picture. Millet's Gleaners exemplifies this. No one complains that we may mistake these French peasants for negroes, yet how often, about photographs, do we hear it remarked: “Oh, that's no good; he looks like a nigger.”

When you find a subject full of expression, take it from several points of view. Then select the one that has the best composition, both of lines and lights and shades. We amateurs, I do not mean tyros, are *too economical in the use of plates*. Professional photographers expose four, eight, sometimes thirty on one subject. Why should we who work under far more unfavorable conditions expose but one? Let us confine ourselves to the number of subjects, but not to the number of plates.

Finally, we come to development. If *detail*, *brilliancy*, and *general technique* is desired in the finished picture, diluted pyro developer with

not too much sulphite is by all means the best, but if, on the other hand, *soft, dreamy* effects are desired, a *bluish negative*, such as is yielded by the modern developers, or by pyro restrained with an abundance of sulphite, will give more satisfaction. Moreover, I might add, that to obtain an olive-colored negative which yields positives fine in technique, it is not necessary to stain the fingers and lace curtains, since, if a film of colodion is used on the fingers, or developing forks are employed, other things being equal, the quality of the prints will be identical.

N. J. MELVILLE.

KEEPING OF BLUE-PRINT SOLUTION.

Herewith I send you a blue-print made from the same one-solution that I mentioned in the December number as having been made up in February of that year, and therefore at the present, September 20, 1901, over a year and a half old; and the print is as good as ever.

This lot of solution, from which I may have prints months or years hence, bids fair to sustain your frequently expressed claim that a blue-print solution properly made and properly kept, would keep indefinitely.

H. WENZEL, JR.

[The print sensitized on a nineteen months' old blue-print solution is in every respect as fine as could have been made from paper sensitized on a solution freshly made.—ED.]

THE FOCAL-PLANE SHUTTER AND RED SENSITIVE PLATES.

I herewith send a print that I think will interest you because of its well illuminated shadows, soft whites, and truthful flesh values: all secured in the 1-500 of a second with an aperture of F. 11. The plate, a Lovell C. D., the lens a Goerz fitted into a reflex camera, and the developer a normal pyro solution, containing pyro 2 grains, sodium sulphite and carbonate 15 grains each, with $\frac{1}{2}$ a grain of bromide in each ounce. For this the Watkins' factor is 6, and as the image appeared in ninety seconds, development was allowed to continue for nine minutes, with the result that you see. On a Lovell's Ex. Rapid plate, the image appeared in half the time, showing that an exposure of 1-1000 of a second would have given the same results.

Now an exposure of even the 1-100 of a second with the type of shutter working between the lenses would have given a very much under exposed negative of the subject at the short range, evident by the size of the figures (an $8\frac{1}{4}$ lens), and consequently what I want to bring out is the value of the focal plane shutter; the immensely greater illumination it

gives under the same conditions of stop and subject than shutters of the ordinary type.

While on this subject, I may remark that the Lovell C. D. plate is red sensitive with a vengeance. I wrote the data on the edge of the plate with a red pencil, drawing the slide only about half an inch, thinking that an exposure of half a minute at a distance of a yard from a double flashed ruby could not produce a trace of fog; but I was mistaken, development showed that half inch very decidedly fogged. With ordinary precautions, however, I had no difficulty in producing clean, clear negatives, as the accompanying print will show. H. WENZEL, JR.

[The print is all that our correspondent claims for it so far as concerns exposure, and fully establishes the claim on behalf of the focal plane shutter.—ED.]

Notes.

CARAMEL.—We have so many complaints as to the difficulty of procuring caramel for backing, or to its unsuitability when got, that we gladly reproduce the following from *Photography*, so that every one may make it for himself. It should be understood that caramel as found in commerce is used as a coloring matter; we have seen a hundredweight of sugar burned at a time in the Caledonian Distillery for the coloring of whisky, and whether it dries hard or not is of little consequence, but if the following directions are carefully followed there need be no difficulty in getting the desired quality.

The material and apparatus required consist of a gas or paraffin stove, an enameled iron saucepan holding about a quart, a wooden spoon, a thermometer reading up to 250° C., and a pound of white lump sugar.

The sugar is crushed, put in the saucepan on the stove, and steadily stirred. It soon melts, and then begins to froth up, until finally the saucepan will be quite filled. Stirring is kept up, and the temperature carefully watched with the thermometer. The sugar will be found to boil freely at about 220° C., and as soon as that temperature is reached the gas must be turned down so that it is not exceeded. If it is allowed to get hotter, the caramel will be ruined. It must be kept at this point for a quarter of an hour, when it will be found to get appreciably thicker. Keep on the boiling and stirring for three minutes after the thickening is noticed, and then pour out the caramel upon a clean metal slab to cool. If all has been done as it should be, it will set into a perfectly dry, hard, brittle, black mass.

The caramel is next broken up into small pieces, put into a bottle, a little water added, and the whole is put on one side for a few days, when it will be found that the caramel has dissolved, forming a thick treacly liquid. Take ten times the bulk of this liquid in methylated spirit, pour the caramel solution into the spirit, and put on one side for an hour. At the end of that time the caramel will be found in a lump at the bottom of the liquid. The solution is poured off and thrown away, and the caramel which is left behind is dissolved in a mixture of one part spirit with four of water. It will take two or three days, with occasional shaking, to dissolve, and its adhesion to the glass is improved by adding to the solution so made a little of the solution which has not been precipitated with spirit. There is no need of any further addition whatsoever.

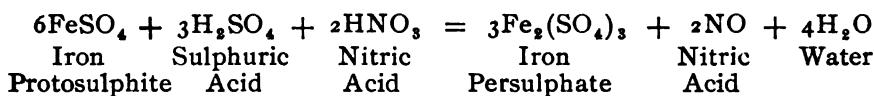
Backing so made may be applied to the glass either with a sponge, a brush, or with a tuft of cotton-wool. It is a mistake to apply too much. A little, which can hardly be seen on looking through the plate at the red lamp, will be found nearly, if not quite, as efficacious as a coating a sixteenth of an inch thick, a great deal easier to apply, and much quicker in drying. It will dry in less than twenty minutes, and should dry quite hard, and without the slightest tendency to chip.

REVERSED NEGATIVES.—From *Photography* we also clip the following method of making a reversed negative, proposed by M. C. Drouillard, although we hardly think it an improvement on that of copying by contact from the positive. A positive is first made from the negative—in the camera if a duplicate negative is wanted, or by contact for a reversed negative. Special care must be taken not to overexpose this positive, and it is developed with amidol, or other suitable developer, until development will go no further. It is then washed rapidly for about a minute, and while still wet is exposed to diffused daylight for seven minutes—a time which experience shows will always give a result. Afterward it is rinsed with water, and then immersed in a ten-per-cent. solution of potassium permanganate, to which, just before use, a small quantity of a one-per-cent. solution of sulphuric acid has been added. This and all subsequent operations are carried out in ruby light. The plate remains in the permanganate, with frequent rocking, until the positive image is no longer visible by either reflected or transmitted light, and it is then put into a one-per-cent. solution of sodium sulphite, until all stains produced by the permanganate have disappeared. Finally, it is developed with an energetic developer, such as a six-per-cent. solution of sodium sulphite, to which rather more amidol than usual is added.

The progress of development must be judged by transmitted light, and when it is complete the plate is treated with alum solution, and fixed in the ordinary way. To avoid overexposure in the first place, and to allow the permanganate to *completely* destroy the first positive image, are essential conditions of success.

A NEW REDUCER.—Mr. F. C. Lambert, in *The Amateur Photographer*, writes of ferric sulphate as a reducer, and as having the selective properties of ammonium persulphate without some of its disadvantages. After speaking of its action in the reduction of hard or too contrasty negatives, and describing the experiments that led to his conclusions, he says: "And now a word about materials and formulæ. It is more likely than not that the reader will ask in vain at his photographic dealer's for iron *persulphate*. Luckily, it is quite easy to prepare for one's self, as follows: Iron *protosulphate* (green vitriol) is dissolved in water, sulphuric acid added; the mixture warmed; nitric acid added, drop by drop, until the black precipitate first formed is redissolved. The mixture heated to drive off any excesses of nitric acid. The solution so obtained is our stock. A few drops of this are added to an ounce of water. This forms our reducing bath. The stock solution keeps in working order for six months certainly, and probably very much longer.

"Next as to exact quantities. Starting with the equation:



"If we elect to use the ordinary green crystals of ferrous sulphate we must bear in mind to allow for the seven molecules of water of crystallization. Thus, 6FeSO_4 means not six times 152, but six times 278, or 1,668 parts; and $3\text{H}_2\text{SO}_4$ is three times 98 or 294. These, with nitric acid (*quant. suf.*), give us three times $\text{Fe}_2(\text{SO}_4)_3$, or three times 400, *i. e.*, 1,200 parts. In other words, in round numbers, 167 parts ferrous sulphate crystals and 30 parts sulphuric acid will give us 120 parts ferric sulphate. For reasons which will presently appear it is best to have a slight excess of sulphuric acid. Without going further into the arithmetic of the matter it will suffice to say that we took ferrous sulphate crystals 1 oz. 76 grains, dissolved this in about 2 ounces of cold water; added slowly (stirring well) 98 grains, *i. e.*, say, 60 minims sulphuric acid, placing the mixture in porcelain basin, and in a sand bath warmed to about 120° F. Then added, drop by drop, nitric acid, and stirring until the dark mixture clears to deep orange. This required about 90 drops of

nitric acid. The mixture was then heated a little more for a few minutes, and allowed to cool. We had now 400 grains of ferric sulphate in solution. This was diluted with water until the total quantity was 2,000 minims, *i. e.*, 4 oz. 1 dr. 40 min. Thus 5 minims of solution contains 1 grain of the ferric salt. This is our stock solution. Numerous trials have been made, with a view to discovering the most convenient strength; these at present indicate the following:

Stock solution (1 in 5)..... 25—30 min.

Water 1 oz.

At ordinary temperatures this strength of solution will produce a degree of action suitable to reduce an ordinary overdense negative in from five to ten minutes. The negative, if dry, should first be soaked in cold water for at least ten minutes, so that the gelatine is quite soft. The dish containing the reducer and negative should be gently rocked to insure even action. The plate should be withdrawn just before the required degree of reduction has taken place, as the action goes on for a short time.

"Now here comes a small matter, but one of considerable practical importance. If the plate is removed from the reducing bath to ordinary tap water—which is frequently very slightly alkaline—the plate (already tinted or stained pale yellow) will take on an obstinate darker tinge of yellow; this considerably retards its printing. We must, therefore, have at hand a jug of water which has been rendered slightly acid. Precise quantities need not be observed. If we add, say, twenty drops or so of strong sulphuric acid to a pint of water, this will serve.

"The reduced negative is transferred to a dish of acid water. This is changed for a second, and again a third bath of acid water, at intervals of five or ten minutes. The reducer certainly changes the color of the silver left in the film. The greater the reduction, the more red becomes that which is left behind. Hence the printing effect is at times rather more 'contrasty' than one might expect."

STAINED PRINTS.—As hypo is used in the manufacture of almost all kinds of paper, except those especially prepared for photographic use, there is always danger of staining prints if they are allowed to dry on newspapers, as suggested. There is nothing better for this purpose than a few sheets of blotting paper, which may be used repeatedly. Care must be exercised, however, that the prints are in all cases thoroughly washed and all hypo eliminated from them. Failure to do this in a single instance will result in contaminating the blotters, which will thereafter be a constant source of trouble.

New Method of Photo-Printing.

For the printing of positives, amateurs in photography are tending more and more to employ artistic processes based upon the use of Artigue, Farineau and Fresson papers, bichromated gums and other preparations. But professionals, who have to furnish quite a large number of prints from the same negative within a limited period of time, necessarily have to adhere to processes that permit of a more rapid printing, and in which bromide paper renders them great services. As is well known, with such

mode of printing that MM. Rancoule and Lantuejoul have devised the "Minerva photo-printer," so named by analogy with the small presses used in printing offices for doing work of slight importance.

With this apparatus it is possible in 6 minutes to obtain 13 prints of carte de visite size, and 6 of album size in 3 minutes.

The apparatus consists of a table, in the center of which there is an aperture, *H*, designed for the reception of the

THE "MINERVA" PHOTO-PRINTING APPARATUS.

paper a print by artificial light can be obtained, but the image has to be developed. Hence there is often a cause of irregularity in the images produced, the tone and the effect obtained varying with the time of exposure. The latter must be the same for all the prints if it is desired to have them identical. Moreover, as it is the same negative that is used for the entire series, there is quite a notable loss of time in the charging and discharging of the frames for each operation. It is for simplifying this

negative. The dimensions of this are varied by the insertion of wooden frames (called "intermediates") of the size of the negative used. Opposite this aperture there is a space reserved for the placing of graders or plates of ground glass when it becomes necessary to soften the light. Beneath the aperture there is a mirror inclined at 45 deg. that reflects upward the light of a kerosene lamp inclosed in a lantern and evenly illuminates the negative.

The apparatus is, of course, placed in

a room lighted solely by a red lantern. In the drawers with which it is provided are placed the negatives to be printed and the graders, etc. One of them is reserved for the unused paper, and another for the paper that has just been employed.

After the lamp has been lighted the shutter is maneuvered by hand in order that the operator may judge of the position of the negative and of the graders and ground-glass plates that have been selected. Then the operator closes the shutter, which is operated automatically. The paper, which measures 12 by 16 inches, is next put in place, and its position with respect to the negative is quickly fixed by means of a rule. The platen, *M*, is afterward turned down upon the paper, and the pedal, *C*, is pressed. The descending motion of the latter carries along two rollers, *D*, that press against the platen and assure an intimate contact of the paper and negative. In addition, it opens the shutter located below and causes the fall of a steel ball, *R*, which rolls over a series of inclined planes, *A*, and, upon reaching the end of its travel, falls upon the extremity, *T*, of a lever, and, through its weight, frees the catch that closes the shutter. All that has to be done then is to allow the pedal to rise in order to liberate the paper, which is afterward shifted sufficiently to bring it into position for the

next print. Such shifting is regulated in advance by the position of pins placed in a row along a rule. In order to determine the exact time of exposure one or two preliminary trials are made upon pieces of paper cut into the size of the negative, and after the desired result has been obtained the operator has no longer to occupy himself with the question.

Such result is obtained by the ingenious arrangement of the ball, which, at the will of the operator, may be made to traverse a path of varying length before falling upon the lever, *T*. It may be seen, in fact, from the detail view to the left of the engraving, that by raising a rod, *B*, it is possible to offer the ball a varying number of inclined planes. When the pedal is operated the ball, as soon as the shutter is opened, falls directly upon *B*, and begins its travel at the point that has been selected for a given negative. It is then certain that for each operation exactly the same time will elapse between the opening and closing of the shutter.

After the entire sheet has been printed its development is effected, and as it is also upon this that may depend the tone of the image we are certain of having a uniform result for all the images of the same sheet.—For the above particulars and the engraving we are indebted to the *Scientific American Supplement* and *La Nature*.

Society News.

Secretaries of camera clubs or photographic societies or associations are respectfully requested to send to Dr. John Nicol, Tioga Centre, N. Y., reports of meetings, copies of papers that have been read before the members, or anything of general interest to our readers.

THE AKRON CAMERA CLUB.—After a summer's vacation the Akron Camera Club began its fall meetings Tuesday evening, October 8. The meeting was an informal one, to make arrangements for the Camera Club Opening, which consisted of an entertainment open to the public, Tuesday evening, October 15. At this meeting the summer's work of the members was shown in the form of lantern slides. These public receptions have been very popular in the past, and have been the means of bringing many new members into the club.

There has been arranged a series of contests for the coming months in the

making of prints, which it is thought will awaken considerable interest and be the means of raising the standard of work. Briefly it is as follows: On the first meeting night of each month each member of the club is to bring what he considers his best picture; these will be hung upon the walls of the club-rooms and a competent committee will select what they consider to be the best one among them all for the prize picture of the month. This will be made part of a permanent collection of the club, and the honor of having a place in this collection will, it is expected, create a lively interest in the contests.

Preparations are being made to enter

the American Lantern Slide Interchange in November and a number of the members are making slides for it. They derived a great deal of pleasure and profit from it two years ago and have no doubt that it is even better this year.

The exhibition at Chicago has tempted several of the members to try for honors there, and two at least have been successful. Messrs. J. Dwight Palmer and Geo. F. Kunz have each received souvenirs announcing the acceptance of their pictures.

The Secretary, Mr. Hoskins, reports that interest in lantern slides among members is increasing. Several members have ordered new stereopticons, made to order from patterns prepared by one of the members who is of a mechanical bent. They are about completed and will soon be ready for the lenses. The cost, complete, will be about \$22 each, and it is said they will be superior to the best \$35 lantern on the market.

The print collection was started at the meeting Tuesday evening, October 15, and promises to be the source of much profit. A large number of prints were brought for inspection, and several hung upon the walls. The lantern slides were from views of the Pan-American Exposition, and were prepared by E. W. Terrass. They were much admired. At the meeting on Tuesday evening, October 29, papers on "Christmas Cards," by Miss Maggie Mitchell; "The Winter's Work," by Prof. C. M. Knight; and "Selecting a Camera," by Dr. J. G. Grant, were presented and read.

THE NASHUA CAMERA CLUB.—On the evening of October 21, the club located at Nashua, N. H., entertained its members and friends by an exhibition of the prize slides of the *American Amateur Photographer*. The Secretary, Mr. Ben Thomas, says: "They were thoroughly enjoyed by all, and especially appreciated by the members."

CAMERA CLUB OF NEW YORK.—The regular monthly meeting of the club was held on Tuesday evening, October 8, President Aspinwall in the chair. After the regular reports of officers and committees were submitted, the matter of granting the temporary use of the rooms and facilities of the club to candidates for future membership was discussed at length, and finally laid over without action. Mr. Ferguson reported

that there was on exhibition on the walls a joint exhibit of three members of the Photographic Society of Philadelphia—John G. Bullock, Mr. Robert S. Redfield, and Edmund S. Sterling. Mr. Juan C. Abel urged before the members of the club the advantages of a National Photographic Record Association, and read extracts on the subject from one or two journals. He considered the preservation of photographic records a most useful undertaking on account of its historical value, and hoped the club would recognize its importance and consent to act as a center to receive and distribute photographic prints and records. All prints should be on platinum or carbon paper and of a permanent character. He suggested that the President or Board of Trustees appoint a special committee to look after and perfect the plan. The President announced the death of H. F. Storm and J. Ridgeway Moore, members of the club, and the marriage of Mr. William B. Post, an old and honored member of the club, to Miss Mary W. Weston, of Fryeburg, Maine. He then introduced Mr. Arthur Hewitt, of Orange, N. J., who gave a talk on "Advanced Photography: The Manifestation of the Spirit in Art—A Plea and an Explanation." One of the points he brought out was the value of the personal element in making a picture, and suggested the absolute freedom of will rather than confining attention to sordid details. It was the picture as a whole that should be a good likeness and pleasing composition which should be sought for, rather than microscopic details, and the mind should be cultivated in that direction. It required a good knowledge of art and much common sense. In photography there is little that is very, very good. He spoke of a photograph of a lady made by Mrs. Kasebier, which for arrangement of lighting was considered highly artistic, yet as portrait was so dark as to be unrecognizable. He referred to the photo of "Telegraph Poles," by Clarence White, but was unable to discern the spirit of art in that picture.

Spirit in photography for art must pervade the portrait photographer. After the money consideration, it is his duty to create a reproduction of the subject, including his spirit and the spirit of the photographer. They must be in touch with each other in such a way as to unconsciously bring out the best facial ex-

pression and spirit of repose and grace that it is possible to do. He considered Mr. Stieglitz to rank high in photographic art. His work shows life and spirit, with enough detail to produce one harmonious whole. Mr. Troth's picture of "Sheep in the Fold" he considered was one of the most beautiful pictures that had been made. He had noticed that there was a great lack of appreciation of art by the public. In landscapes, especially in photographs of mountain scenery, there was a general want of solemnity. Life and light must predominate in any picture.

On closing, he read a quotation from Emerson bearing on the subject-matter he had been discussing.

The club has resumed the practice of having Wednesday nights reserved for the testing of lantern slides.

TORONTO CAMERA CLUB.

We have to thank the Secretary, Mr. John J. Woolnough, for a copy of a circular announcing the opening of the season on October 7, and containing the "Fixtures" for the first four weeks. They include an exhibition of the Albany, Frankford, New Britain and Trenton slides; members' experiences at the Pan-American with illustrations; testing slides for the interchange; and an exhibition of the pictures sent in competition for the medal offered by the President. This, according to the circular, is a gold medal "made of gold," and is to be awarded to the best set of four prints of dissimilar subjects, not larger than 8 x 10. The circular contains a cut of the medal, and a lot of advice to the members in a strain that not only tries to be, but really is, humorous.

Our Portfolio.

Communications for the editors, pictures for criticism (only one print at a time), and apparatus and material for examination, should be sent to Dr. John Nicol, Tioga Centre, N. Y.

1317. L. F. MARBURY.—"Croiux Lake" is probably in nature an attractive subject, but, as photographed, it is meaningless. A sky of white paper, a sheet of water almost black, and a confused mass of foliage suggesting nothing and not claiming a second examination. The lights and shades are equally scattered all over the plate, and there is neither objective point nor *motif*, nothing in fact accentuated, nothing suppressed.

1318. H. WENZEL, JR.—"Children on the Sands" is the print referred to in Mr. Wenzel's communication to "The Contribution Box" on another page, and it fully bears out what he claims for it in the matter of exposure. That the values are not true, as witness the fact that the sand and sea beyond the foam are identical in shade, is not due to faulty exposure, but to other causes that might have been obviated partly at least by development, and partly by a different lighting; but the negative was made, not for pictorial but experimental purposes, and it serves them admirably. See page 494.

1319. B. LINDSTROM.—"A Portrait" is only a fairly good example of "the usual thing," or professional work. The

lighting is much too hard and the contrast much too great; as, to get the slight shade on the dark side of the figure, development has been forced till the light side of the face is simply white paper without a trace of that texture without which a portrait is a failure. The employment of a reflector to better equalize the light, or a longer exposure with the arrangement you had, would enable you to secure the necessary texture and give a better result. But don't be content with such work as is turned out by the average professional; try to get something beyond the mere map of the face, something of the inner man or woman, not so much "a speaking" as a *thinking* likeness.

1320. ALBERT PIERCE.—"The Lake" is a beautiful subject not quite so well arranged or so well photographed as it might have been. As a composition it could not have been bettered except that a little more of the interesting foreground would have been an advantage. The winding path leads beautifully to the rustic shade and seat, and the clump on the left is a charming support and balance to the larger masses on the right, while the little more than indicated clouds completes the really fine picture.

The only real fault is the way in which the water is represented. An unbroken sheet of uniform gray, lighter even than the sky from which it has its light, is too serious a strain on the imagination, and makes us wish for just a gentle ripple or something that would have spoken a little distinctly of water. Nor is the print just the best that could have been got from the negative. It is too gray and faint. Try some other paper, especially one that would give a print in a warmer tone; and if you know how, try what a little local reduction of the water will do to obviate its present objectionable uniformity.

1321. F. A. HUSER.—We are not surprised at this print coming without a title, as it would have been difficult to find one. It is a good photograph of a subject not worth photographing, there being neither *motif*, objective point, nor any one object of more importance than another. Your technique is excellent, but you must learn to *see*, to have an object in view, and know how to carry it out before you will apply it to advantage.

1322. H. J. HUFF.—“Cascades on the Columbia River,” a snap-shot from the deck of a steamer, is simply a waste of material. First a band of black with a few flakes of white, which may be the water; then a band of white which may be froth; and then another band of black representing, we think, trees on the river's bank, and a triangular bit of gray, probably indicating a distant mountain. We do not object to a little diffusion, but this goes far over the score. It may do for a photographic reminder of what the photographer saw, but conveys no idea to others.

1323. W. E. COGSWELL.—“The Little Mother,” a girl nursing a child, by a flash-light exposure, needed more thought than it had got. An almost Mede and Persian law prohibits the placing of a head under a vertical object, and the head of the child is immediately under a broad white line made by a fold of a very objectionable lace curtain behind it. Then the arrangement and lighting are such that carpet and wall behind are so incorporated that we can not tell where the one begins and the other ends; and the flash has been so weak as to give only intense blackness to all beyond a little of the foreground. As a result of that underexposure development has had to be forced till the white dresses, instead of showing the

light and shade of their folds, are simply one unbroken white, the highest of high light. You say, “I should like to have made it different but the dimensions of the room would not permit.” Our teaching has always been to the effect that if you can not get a thing just as you want it don't photograph it. The idea and the arrangement are good but the curtain is distracting, the vertical line over the head is a serious fault, and the underexposure has resulted, as it always does, in soot and whitewash. See page 486.

1324. G. E. FITCH.—“Windella,” a pure white Angora cat belonging to Mrs. Clinton Locke, of Chicago, and one that is said to have been awarded a prize at every show in which it has been entered. It is well photographed, although it was a risky business to do so against the light. We rather like the resulting slightly hazy effect, although generally speaking, better focusing is desirable for such subjects.

1325. H. DOERNER.—“A Water Spaniel” is a good photograph of a dog, but why make it ridiculous by placing it on the end of a box covered with a fur rug? We know that dogs can be taught to take such positions, but they are not natural and animals should be photographed in positions that are. It is a beautiful and sensible animal and deserves better treatment. The “Old Chestnut Tree,” noticed under No. 1303, has been very much improved by reduction and would be still more so by the lighting up of the trunk. It does not, however, come under the definition of a picture, but is a very good “record of fact.”

1326. F. E. BRONSON.—“The Gypsy.” This is decidedly the best thing that you have sent in spite of its rather serious faults. The pose and arrangement are fine, while the flesh texture is all that could be desired; and while we could have wished that the exposure had been sufficient to have given just a shade better indication of the dark hair, we could have overlooked that fault if only the expression had been a little more in keeping with the darkness. You are aiming high but will not reach the goal till you give more, much more attention to the training of the model. As it is, the expression is absolutely negative, suggestive of no particular thought within, and, as in all such work, it is the inner rather than the outer revelation at

which you should aim. It is here that the artist of the brush has such an advantage over he of the sun pencil. The former, by a few touches may convey any of a thousand thoughts, while the latter is altogether dependent on the control over nerve and muscle to which his model may be trained. Don't grudge any necessary number of hours spent in training your model, and still further increase your exposure and you will surely do well in your chosen line. See frontispiece.

1327. C. H. BAKER—"Soldiers' Monument, Newburgh." This is simply an attempt, and not quite successful, at a record of fact. Nearly a half of the space is devoted to a perfectly bare and consequently uninteresting foreground, which is not only bad in itself, but it has the effect of dwarfing the building and conveying a false idea of its size. An inch off the foreground and that space added to the sky would have been about right. Then, although of this we are not quite sure, but if our memory serves us well the vertical lines of the monument are truly perpendicular, while here they converge, and in that case your camera has not been level, and you have not taken advantage of the swing back. A longer exposure would have admitted of stopping development before the walls of the monument and the water in the middle distance were so much whiter than they should be, and given on the whole much truer values.

1328. C. R. GARDINER—"Lightfoot Road" is a fine subject, well selected and well photographed. It is, indeed, quite encouraging amidst so many under-exposed snaps to find a print that has been from a properly exposed negative. Work like this, and on such a small scale, should be enlarged; up to 12 x 10 this would make a prize taker at most of our exhibitions.

1329. F. C. BAKER—"Sunshine: An Open Air Still Life." We hardly know what to say of this. It is a bold effort both as regards subject and mount; the latter a bright crimson and the former a collection of barrels, pails, and tubs. "Not worth looking at" is the first impression, and we look, and looking we want to continue to do so, and the longer we look the more impressed we become that even the commonest and simplest things may be arranged and lighted so as to be made attractive. But while admitting this much, we feel that good

as the lighting is it might have been better, might have had just a shade more contrast with advantage. It shows, however, that we do not need to go far for material for pictures, no farther, as in this case at least, than the "back yard." See page 485.

1330. H. A. TREMAINE.—The unnamed print, as a subject, was not worth photographing, and as a photograph is a failure from underexposure. The back yard of a house partly covered with foliage, and at right angles to it a picket fence partly covered in the same way; but the foliage where direct light has fallen on it is simply white paper, as is the large mass of vacant sky. Before you can get anything like true values you must expose long enough to get detail in the shadows before sky, and every well-lighted object has been developed into the highest of high lights. Then, even if the photography and subject had been faultless it would have been spoiled by the sticking of a girl on the top of a step-ladder, a place where girls generally do not care to be seen, and letting her stare into the camera.

1331. A. G. GRAFF—"A Bit of News," two ladies interested in a letter, is an excellent example of good photography of the professional variety, generally spoken of as "the usual thing." We have rarely seen everything from head to heel, including the light-colored dresses, so perfectly reproduced, and if only the lighting had not been so much in front we should have said it was better, much better than nine-tenths of most of the professional work in the country. But such sharp definition all over is not conducive to pictorial quality, and the filling of the print with the figures to the exclusion of almost everything else makes us feel as if there were giantesses in your part of the country. Try again, light a little more from the side, and make the figures smaller, and you will have a splendid example of professional work; but if you are aiming at pictures, that is, truly artistic work, you must learn the necessity and advantage of concentration, accentuation, and subordination. See page 487.

1332. W. G. HELWIG—"Returning from the Spring" is practically the same subject as was noticed and reproduced in our June number as No. 1231, a woman with a pail being substituted for the "Little Wanderers." The principal difference is an increase of foreground

which it would have been better without, as an inch taken from it and given to the sky would have been an improvement. The main fault of the other, false values from underexposure, applies to this, although in a less degree, the tree-trunks being still hardly removed from the quite black. You should learn also how to concentrate your lights and shades; the former are scattered all over this as if from a pepper-box, and all equally the highest of high lights. We may also say that while your aim has been to make a picture that would come under the designation of a "Figure with Landscape," the result is really a "Landscape with Figure," the latter playing but a small part in the former.

1333. H. P. F.—"Breakers." It is easier to *feel* than to say just why this is not satisfactory. The water and the spray are living and moving; not, as is too often the case, as if frozen, but undulating as they approach. But there is no indication as to where they are to go, or to what they are to come. Can it be that the sea of itself is hardly sufficient to satisfy the mind in search after pictorial effect? We feel as if a strip of sand, a boundary beyond which the rolling wave can not go, and especially a cloud or two above the horizon, were needed to make this complete, although we can not say for sure. To us it truly suggests the rolling wave and the breaking spray, and yet it feels to want something to make it complete.

1334. F. W. GUDEWILL. "Reverie," a lady seated, her head resting on her hand, on a curious combination of garden seat and ornamental rug or cover, and under a mass of Virginia creeper, a rather unusual combination. The photography is better than the arrangement, and would have been still better, so far as the figure is concerned, if the development had not been carried quite so far. Without the whole of the dry-goods except what is on the figure, at least the half of the foliage, and with a

little less sky, we should have admired the little picture very much. See page 495.

1335. R. H. CLARK.—"The Picture Book," a little girl resting her chin in her hand, and gazing at, presumably, a book of pictures, is evidently on much too large a scale for the lens by which it was made. From a distance, so as to make the figure about half this size, and differently lighted, it would have been a fine thing; but bringing the lens so near, and lighting so much from in front, has fearfully exaggerated the hand and the book, and made the figure much too flat. Don't be ambitious as to size till you get a lens of much longer focus, and in arranging the light remember that a picture must have shade as well as light. Pose and expression are in every way satisfactory.

1336. CATHARINE SOPER.—"In the Shadow of the Hill," a print in green carbon, is quite up to your former contributions, and in its dreamy atmosphere and suggestion goes beyond them. As an example of the influence for good of a little thing, we might mention the streak of light crossing the rising ground immediately behind the sheep, carrying the eye, as it does, to the home beyond, and at the same time giving a little contrast to the two nearly parallel lines going horizontally across the composition. It is a soft, delicate picture, suggesting far more than is seen, and we are only sorry that so much of its most pleasing qualities will be lost in its reproduction. See page 493.

1337. H. C. DRAKE.—"A Woodland Path" is a fine subject from a well-selected point, but had a prize been offered for the worst possible photography it would have stood a good chance of getting it. The exposure has been so short and the development so unsuitable that there is absolutely nothing but white and black, and they are about scattered equally all over the print. The massing of lights and shades is an essential of picture-making, and there is not a trace of either in this.

A CORRECTION.—Through a clerical error, the portrait of a Spanish lady which was recently published in the advertisement of the Bausch & Lomb Optical Company, in this journal, was credited to Torres & Company, Mexico

City, Mexico. This portrait was in reality made by Arriaga & Company, of Mexico City. The picture was, however, made with Plastigmat F. 6.8, both these firms being supplied with these lenses.

Our Table.

Books for review and apparatus and material for examination and report should be sent to Dr. John Nicol, Tioga Centre, N. Y.

PICTORIAL LANDSCAPE PHOTOGRAPHY. By John A. Hodges, F.R.P.S. Chicago: The Photo-Beacon Company. The author in his introduction says: "Photography has made, during the last few years, both in Europe and America, very great advances from the purely artistic or picture-making point of view, and many who practise photography, and who possess, though untrained, the true artistic instinct, are desirous of learning how their technical skill in the use of the camera and lens may be directed to the production of artistic work. My chief object in penning these lines will be to assist them in fulfilling their desire." And the least that can be said about the book is that he has succeeded admirably. He begins by telling his readers that for pictorial work simple single achromatic lenses are not only as good but actually better than the most expensive instruments, and as all kinds of work can not be done satisfactorily with one, recommends a battery of three, of focal lengths respectively of once and a quarter, once and a half, and twice the length of the base line of the picture. He also recommends that the fixed stop, the largest allowed by the maker, generally about F. 16, be opened up to F. 8, as giving a more pictorial definition. Then follows nearly a hundred pages of such excellent teaching, both by precept and example, as can not fail to immensely improve the work of all who study it.

* * *

CAMERA NOTES.—When the first few numbers of this always interesting magazine appeared we wondered how its editor could continue to give so much for so little, but now and for a considerable time we look for each succeeding number to be better than its successors. Nor is the October number a disappointment. The reading matter is quite up to, if not beyond, the usual mark. We can overlook the erratics of Dallett Fuguet, for his high ideals of portraiture, although those who give commissions to portrait painters will hardly agree with him in his idea that instead of trusting to themselves and their friends as to the question of likeness,

they should sit humbly at the feet of the painter and learn from him as to that. Otto Walter Beck talks of the education of the photographer, and thinks that instead of basing it on what has been and is doing in other branches of art, it should be made to develop a basis of its own; while Horsley Hinton seems to think that the reason why it is made so much like some of its elder sisters is that it has not had time to develop any very broad principles for its own guidance. Particularly interesting is a report of a lecture on the testing of lenses, delivered before the members of the club by Charles Manierre, as it gives popularly and clearly just the kind of information that photographers most need and that they know the least about. But in this as in all previous numbers it is the illustrations that bulk most largely, and he must be hard to please who is not delighted with most of them. The editor's "An Icy Night" appeals to us as few pictures have done for a long time, and as a study of how a print is affected by its mount it is invaluable. The mount is a cut-out dark slate, and as it is fastened only at the upper corners it is easy to remove it and examine it on its original "plate-sunk" and tinted mount, the mount on which it was printed, and to those who have not studied the effect of a suitably colored mount it will be a revelation. Fine, too, is "Fruits of the Earth," by Gertrude Kasebier, and, like all good pictures, the longer we look at it the finer it seems, although we hardly know why the wall of the distant building was allowed to be so far off the plumb. Satisfying, too, are the two engravings from gum prints, "Citadel-Würzburg," by Benjamin Sharp, and "September," by the editor. But amidst so much that is admirable we can not help regretting the appearance of the two nudes, "Nude," by W. W. Renwick, and "A Decorated Panel," by Clarence H. White. The first is probably the least offensive of all the photographic nudes that we have seen, but we consider, or rather *feel*, that it is a mistake for all that; and probably for reasons that will be found by those

who care to look for them in our last number. Of the latter the less said the better, only we hope that as a decorative panel it will be universally condemned.

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THE "PHOTO-MINIATURE" for August deals with flash-light photography, and in its usual satisfactory style. The monograph includes nine flash-light photographs, including busts, full-length figures, groups, dogs, and babies, all of them excellent, not one with the usual objectionable shadow, and hardly one that, except on the most reliable evidence, would have been believed to have been taken by other than the usual daylight. When we say that the book goes so clearly and so fully into the *modus operandi* as to enable the average photographer to do as the author has done, we can give it no higher praise, and the praise is not higher than it deserves.

* * *

THE PLASTIGMAT F. 6.8.—Bausch & Lomb seem to be working this lens for all that it is worth, and, as will be seen from "Our Table" in the June number, it is one of the best, if not the best, that we have had an opportunity of thoroughly examining.

They send us a copy of what may be called the Plastigmat Souvenir, containing reproductions from the prints to which were awarded the prizes of, respectively, \$100 and \$50. They send also prints of what may be called a dissected plastigmat; reproductions from photographs of the eight lenses that are included in the complete lens all in a row; and arranged in the same way, the parts, apparently the same in number, that go to make up the mount. We are sometimes asked why the anastigmatic family are so much more costly than the older lenses, but when we look at those eight pieces of glass and think of the scientific knowledge involved in the calculation of curves and qualities, and of the high-class labor involved in making them what they are, to say nothing of the beauty and perfection of the mounting, the wonder is that it can be done at any cost. Both souvenir and dissections can be had for the asking, and they are well worth sending for.

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We have to thank Mr. W. I. Scandlin, editor of *Anthony's Bulletin*, for a copy of the lecture he delivered before the recent Detroit Convention, entitled "A New Chapter in the Early History of

Photography in this Country." The lecture was illustrated by slides made from a number of a series of about a hundred waxed paper negatives, generally about 12 x 10, made by Victor Prevost, who seems to have been photographer, artist, and chemist during 1851-54. The negatives seem to have been made with a view to publication in book form, but for some unknown reason the author turned to other occupations and they lay unknown and uncared for in a garret for nearly half a century, although their author was teaching in New York until his death in 1881.

* * *

SOUVENIR OF THE CHICAGO SALON.—The Photo-Beacon Co. have again earned the gratitude of photographers throughout the land—indeed, we might say throughout the world—by giving them, as it did of the first Chicago Salon, a thoroughly representative collection of the exhibits of the second. It contains fifty-eight half-tone engravings, one from the work of each exhibitor, and while it may not be altogether what its compiler, the editor of the *Photo-Beacon*, claims, "a photographic record of the status of American photographic art at the dawn of a new century," the names of many of the best-known workers being absent, it comes nearer to that than anything that has as yet appeared or as is likely to appear. And the story that it tells is satisfactory. The time has not yet come when we can see a "Salon" without some of the freaks and eccentricities with which the name, in this country at least, has been more or less connected; but from our point of view this has been a very decided improvement on at least some of its predecessors. The photographer aiming at the pictorial will find in the souvenir of the Chicago Salon an invaluable mentor, showing much of both what to emulate and what to avoid, and to the merely curious, those who want to see the difference between a Salon and an ordinary photographic exhibition, it will be a well-invested fifty cents.

* * *

A RADIOGRAPH OF A HAND comes from Dr. E. H. Grubbe, a member of the faculty of the Illinois School of Electro-Therapeutics, in Chicago, and one of the best that we have seen. Along with the radiograph comes a prospectus of the work of the school, the X-ray department of which should be of some inter-

est to photographers. While the supreme value of radiography as an aid to diagnosis is admitted, the best apparatus is too costly for one class of physicians, and the time required for its use and care can not be spared by the other, and consequently in the larger cities it is generally found that one man devotes himself to doing the work for all. In the smaller cities, however, there is not enough of such work to make such specialism pay, and it is here that the enterprising photographer might come in. Mr. Carbutt, who has given a good deal of attention to the subject, would, no doubt, give such an one much valuable information, and how to get the necessary instruction could be learned by application to the school at No. 1301-3 Champlain Building, Chicago.

* * *

MESSRS. TAPRELL, LOOMIS & Co., 418 Dearborn street, Chicago, have originated some exclusive and striking designs in white and black embossed mounts. The effect is rich enough to enhance the beauty of the finest print on platinum or carbon. They also make a very neat 4x5 portfolio, which they will be pleased to send for twenty-five cents, with samples of their mounts to any one who will mention this magazine.

* * *

BOFLAY.—The Boflay Camera and Chemical Co., of Newark, N. J., send a sample of a new developer, to which they have given that, to us at least, meaningless name; but if it only does all they claim for it and does it well, the meaningless name will become, to amateurs at least, a household word. Boflay, as it comes to us, consists of a six-ounce bottle of a colorless liquid and six capsules of a grayish powder. An ounce of the liquid and the contents of one capsule are added to four ounces of water, and as soon as the powder is dissolved you have a developing and fixing solution that will do the double duty automatically and perfectly without further care or attention. So, at least, say the "directions," and from the single experiment that time has permitted us to make we are inclined to believe them. In a solution so made, we placed a 5x7 plate that had been in the holder since September 4, when it got a shutter exposure on some yachts on the bay at Point O' Woods, placed the tray on the rocker, and left it to its own sweet

will for fifteen minutes, at the end of which time we had a negative differing in nothing from one developed and fixed in the ordinary way, and as far as visual observation could tell properly fixed. The time for "copy" to go to the printer is too near for further experiment, but in our next we hope to know all about Boflay that we can find out, and to tell our readers all that they need to know.

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WOODLAND AND MEADOW. By W. I. Lincoln Adams. New York: The Baker & Taylor Company.—This is another of those beautifully got-up books that Mr. Adams, the head of a large and exacting business, finds time to give us, and in all that goes to make a book delightful to the reader and desirable as an ornament on the drawing-room table it is not a whit behind its predecessors. It is the idyllic story of a New England farm, beginning with the "sugar camp," and, after filling the barns with food for man and beast, ending in the "ruddy glow" of the winter evening's log fire, when, after the seasonable recreations and enjoyable labors, sleep steals on,

"as sleep will do,
When hearts are light and life is new."

It is evident that the author's knowledge and appreciation of life on the farm is greater than could have been learned and acquired at the desk, and he tells of both in such a charming way as to make us feel that we have mistaken our calling. The story is illustrated by 76 very good half-tone engravings from negatives, with few exceptions, of the "record of fact" rather than the pictorial variety, which is as it should be, seeing that the object is to show things as they are rather than as the artist sees them. "Woodland and Meadows" is a book of beauty, and is just the thing for the drawing-room or the waiting-rooms of the physician, the dentist, and the photographer.

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GUM-BICHROMATE PAPER.—From G. Gennert comes a sample of this paper, and as the supposed difficulties of its preparation have, more than anything else, kept amateurs in this country from trying a printing method by which some of the best pictures in recent British exhibitions have been produced, we shall have pleasure in putting it to the test of practical work and reporting in our next.

What should prove of great value to amateur photographers in New York and vicinity is the Photographic Library of Henry Kahn & Co., 189 Broadway. All the standard works on photography are on file, and subscribers can have the use of any book for a period not exceeding seven days. Every amateur photographer has often felt the need of a ready reference library, and this enterprise of Henry Kahn & Co. will fill a long-felt want. For the amateur who wishes to look up a formula, reading accommodations are to be found right in the store. A nominal fee of one dollar a year is charged. New books of value will be added from time to time, and we strongly advise our readers to send to Henry Kahn & Co. for their Library pamphlet.

* * *

The A. M. COLLINS Co., Philadelphia, have recently brought out an embossed mount in carbon black, a very pleasing design, and just the thing for oval photographs. They are made in all sizes and standard ovals. No prettier effect can be imagined than a portrait or other print on the special portrait Velox, or platinum, printed behind a mask cut with one side of a rotary trimmer and the print trimmed in the same oval, using the other side of the trimmer to give a white line around the picture. The "Marquette" is the name given by the Collins Co. to the new mount.

* * *

COLOPLATIN MATT, the new printing-out paper manufactured by the Coloplantin Co., of Newton, N. J., is a very desirable variation from the glossy surfaced papers. A practical test fully confirms the claims set forth by the makers. It prints quickly and gives good re-

sults from weak and dense negatives, but the best result is obtained from a plucky negative such as would be made for platinum printing. If the printing is prolonged until the high lights are tinted, the shadows will be bronzed, but unlike some other papers this bronzing disappears in the after-treatment, changing into pure black. It yields readily to any toning bath, is not greedy on the gold, and by stopping at various stages fine tones may be obtained from Bartolozzi red to pure black. Plain and practical directions come with each package of paper, which, if followed, will ensure success in any hands.

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THE MCINTOSH STEREOPTICON Co., 35 Randolph Street, Chicago, have recently perfected a lantern that by a slight change in the attachments may be used as an enlarging apparatus for making bromides or as a magic lantern for projecting slides. We have many inquiries as to the best method of making bromide enlargements at home, and recommend the use of an enlarging lantern wherever possible. Where only occasional work is done, however, the cost of the apparatus is a drawback, but when, as in the case of this special lantern, it can also be used for home or public entertainment and the satisfaction of being able to view slides made from pet negatives, the cost is small in comparison to the amount of pleasure derived. We have used one of the McIntosh projecting lanterns of a different style with great satisfaction, and have no doubt but that their new apparatus is constructed in an equally substantial manner. They will be pleased to send particulars to any one mentioning this magazine.

Recent Patents and Trade Marks.

The following digests were furnished by Messrs. Davis & Davis, patent attorneys, of Washington, D. C., and at St. Paul Building, Broadway and Park Row, New York.

682,804—PLATE-HOLDER.—F. V. Matthews, Rochester, N. Y.

The frame of the plate-holder is provided with two plate-retaining springs which are attached to the interior of the frame on opposite sides thereof, each spring being provided with notches at a distance from the three ends thereof whereby the springs are adapted to hold plates of different sizes.

682,131—PISTOL FOR FIRING FLASH-LIGHT CARTRIDGES.—J. E. Blackmore, Newark, N. J.

The pistol is formed of the usual body por-

tion, having a handle attached thereto and the usual trigger mechanism. The body portion is formed with a flat seat on which a pan-like cartridge is detachably held. The pan-like cartridge is formed with a cap upon its bottom and the firing pin is projected upward into contact with said cap by the trigger mechanism.

681,920—PLATE-HOLDER.—A. C. LaMay, Rochester, N. Y., assignor to the Warnica Co., same place.

Within the plate-holder is secured a ceptum

having a series of aligned openings at one end and a series of opposite openings near the other end. A spring clip is provided, which is adapted to engage in any one of the first-named openings, and corner clips are provided which engage in opposite openings and receive the corners of the plate, the first-named clip being adapted to engage the end of the plate.

682,081—EXTENSION BED FOR CAMERAS.—C. Hutchings, Rochester, N. Y., assignor to Rochester Optical Co., same place.

This bed is formed of a plurality of sections, and is provided with the usual means for extending the same. A locking device is provided for connecting said sections with each other, and means are provided for releasing said locking device from its engagement with one of said sections and throwing it into locking engagement with the part on which said sections are supported.

683,031—APPARATUS FOR DEVELOPING AND FIXING PHOTOGRAPHIC FILMS.—R. Fleischer, Wiesbaden, Germany.

This apparatus is comprised of a chamber to receive a spool of film, said film being so mounted that it may be rotated from without the casing. This casing is secured to the upper end of a viewing chamber, and means are pro-

vided whereby the film may be projected into the viewing chamber, and from said chamber may be passed into the developing chamber, which is detachably connected to the base of the viewing chamber, and is adapted to contain the developing fluid.

683,146—PLATE-HOLDER.—W. L. Robertson, Lebanon, N. H.

This holder consists of two bars, the inner faces of the upper ends of which are rounded and the outer faces of which are provided with transverse kerfs. The lower ends of these bars are provided with inwardly projecting hooks having sharp edges, and above these edges are formed seats for the plate. A bow-spring extends over the upper ends of these bars, its ends being secured within the transverse kerfs of the bar, and normally changing to spring the lower ends of the bars away from each other.

683,573—MEANS FOR PHOTOGRAPHING PANORAMIC VIEWS.—O. Pasquarelli, Turin, Italy.

This mechanism comprises positive means for propelling a film past the exposure position at a speed which is fixedly proportional to the speed of rotation of the camera, a roll for receiving the exposed film, a pulley attached to said roll, and yielding means for driving said pulley.

Answers to Correspondents.

Correspondents are requested to notice that communications intended for the editors should be addressed to Dr. John Nicol, Tioga Centre, N. Y.

MRS. G. H. FOSTER.—"After Dinner" is very much improved by the more rational trimming and mounting, and would have been still better if rectilinear rather than oval, and with a plain instead of an ornamental mount. "Good wine needs no bush." Mounting and framing is intended to confine the attention to the picture, not to attract and keep it from it.

G. L. STIMSON.—If A does not care to patent his invention or combination he has no inherent right to prevent its use by any one who cares to use it; and B is quite within his rights, both morally and legally, in doing so. In granting a patent the Government creates a right for something in return; that something being that the inventor shall deposit in the patent office such a description of the invention as will enable any one to use it when the patent expires.

T. R. WACHTER.—We have answered this question a dozen times. The clergyman can not prevent you from photographing the church from anywhere outside the grounds belonging to the managers, and the deacon who photo-

graphed it from the hotel window is simply bluffing you. His copyright only prevents you from copying his picture, and you are at perfect liberty to make as many photographs as you please of the same subject from the same window.

HELEN RAYNER.—Your print, having been sent to Tioga Centre instead of Point O' Woods, is probably amongst those not yet unpacked. It shall be noticed in our next.

W. H. KNIGHT.—A "Ten by Eight Lens" is meaningless; tell us its focal length and we shall be able to answer the questions.

CATHARINE SOPER.—In the address to which you refer the speaker was especially dealing with portraiture and from a professional point of view. If the speaker means to say that a good picture can not be made from a negative that has been "purposely put a little out of focus," we do not agree with him. We have never known, and do not think it possible, that a negative from being in contact with dry carbon or platinum paper can be so affected as to injure

silver paper on which it was subsequently employed to make prints.

W. M. HUNT.—"Spring" is merely a copy of a drawing and so not acceptable to the "Portfolio."

R. A. GILCHRIST.—By a lens "working at F. 1" is meant a lens with an aperture equal to its focal length, and consequently sixty-four times faster than yours at F. 8. Only lenses of very short focus can be made with such a large aperture, but you will find several of the modern anastigmats with an aperture of F. 5.6, which, although only twice as fast as yours, will answer your purpose well enough.

RICHARD BRUNSON.—If the lens is otherwise good the "deep scratch" will not in any degree interfere with its working. Fill it up with any dark cement and it will be as good as ever.

W. H. MORTON.—While we advise development as soon after exposure as may be convenient, we are perfectly aware that they will keep between the two operations for months; indeed, in some cases, they have been proved to have kept for years. We have several dozens that were exposed during July and August while at our summer home by the sea; they include exposures varying from 1-15 of a second to three minutes; and although we shall not get to their development for probably a month, we expect that most of them will turn out well.

MISS H. L. M.—There is nothing to choose between the two formulæ; the gentleman you mention could do quite as good work with the one as with the other. He would modify either so as to produce just what he wants, and you must learn how to do that before you will make pictures as good as his. To secure the desirable detail of light and shade in white drapery it is necessary to give a full exposure and develop in a solution weak in reducer. The same applies equally to snow scenes, and, in addition, they are best photographed when the sun is low, either early or late in the day.

JOHN L. MORRIS.—Yes, we still stick to the statement that for purely pictorial work the single lens is in every respect as good as the most costly anastigmat, and are glad to find confirmation in a book by such a well-known authority as Mr. Hodges, as will be seen from "Our Table" on another page.

FRANK BRADY.—We can not recom-

mend any particular camera in this column, nor is there a need to do so, as so long as it is light-tight, except in the matter of convenience, one is just as good as another. We may say, however, that there are three things that a camera should possess—a long draw, a swing, and a reversible back. The swing may be either in front or behind, the latter in preference.

R. C. KUNTZ.—It would occupy a whole number instead of the little space devoted to "Answers" to tell all that you want to know about the ferric possibilities. Send to our publishers for a copy of Brown's "Ferric and Helio-graphic Processes," in which you will find all you want and a great deal more that you will be all the better for knowing.

J. R. SEELEY.—We do not recommend any of the so-called hypo eliminators, as we believe sufficient washing to be the best eliminator. Fewer prints fade from remaining hypo than from insufficient fixing; that is, from the print having been too soon removed from the fixing solution. Not being blessed with running water, we wash in eight or ten changes, removing from one dish to another, and have never had a print fade from insufficient either fixing or washing.

PEARL ARMSTRONG.—The probability is that the daguerreotype has not really faded but got covered by a deposit easily removed. Its removal, however, requires great care and can be done only by one accustomed to the process. If you can find an old daguerreotypist to undertake it well and good, but do not try it yourself or trust it to one who knows nothing about it. Failing that, send it to us and we shall return it as good as it originally was. Do not take it out of its case, as the least touch will ruin it.

S. F. KNIGHT.—The microphotographs to which you allude were made with a very structureless wet collodion. We fear the grain of the modern dry plate is not nearly fine enough for the purpose.

H. JOHNSTON.—The shadow is caused by the flash being much too low. Place it in front, a little to the side, and several feet above the head of the figure. Of course, it must be shaded so as to be out of reach of the lens.

K. NEARES.—The letter to Mr. Cochran received and forwarded.

"A CHILD OF THE SLUMS."

BY
W. BRAUCHER.

(Philadelphia Salon, 1901.)

THE
AMERICAN AMATEUR PHOTOGRAPHER.

VOL. XIII.

DECEMBER, 1901.

NO. 12

The Fourth Philadelphia Photographic Salon.

BY CHARLES E. FAIRMAN.

THE Fourth Philadelphia Photographic Salon at the Pennsylvania Academy of the Fine Arts was opened to the public on the 18th of November and will remain open until December 14th, 1901. It is stated in the Catalogue, as it has been stated in previous years, that "The purpose of the Salon is to exhibit that class of work only in which there is distinct evidence of individual artistic feeling and execution," and it is for the art critics and the public to now decide whether the purpose of the Salon has approached nearer a perfect realization of its aims in this year than in the years which have preceded it. So far as the number of prints hung forms a factor in a successful Salon there are prints enough hung this year to satisfy any reasonable person; out of about twelve hundred prints submitted, two hundred and eighty-six have been deemed worthy of a place in the Exhibition. The number of prints submitted was ample enough, and judging the Exhibition as a whole the selections have been wisely made. There is a noticeable absence of work belonging to what may be termed the depressionist school, for there is a wide difference between depressionism and impressionism, and the gain this year in actual picture making by photography is far beyond that of preceding years.

In the landscape class, and in the genre class there is a marked increase in the number of frames; in the portrait class there is also a marked loss, for which, I think, that the public in general and especially the art-loving part of the public have much reason for being thankful.

Another subject for congratulation is in the fact that this Salon has brought to the attention of the public the work of fifty per cent. more of new workers than any other Salon held in America, and that this is not due to a relaxation of the high standard required for all work exhibited is shown by the fact that the art committee in the arrangement of the pictures for hanging designated a large number of the pictures made by the new workers for a place on the line.

The work of the foreign exhibitors forms a pleasing addition to the present Salon, and the foreign exhibitors, twenty-four in number, are represented

(Philadelphia Salon, 1901.)

"CORYMBUS."

By C. Yarnall Abbott.

by a total of eighty-nine frames. The remainder of the work in the Salon is the work of American exhibitors.

Another noticeable feature of the Salon is the small number of frames exhibited by the Photographic members of the jury of selection. They are represented this year by seven frames, quite a difference from fifty.

Among the well-known American exhibitors we note the work of C. Yarnall Abbott, of Philadelphia, who is represented by five frames. His "Coryphée" is reproduced in the Catalogue; his "Sentinels" is very near if not quite the largest picture at the Exhibition. It is a pleasing composition of a stream with a fringe of trees on the bank. The focus is some-

(Philadelphia Salon, 1901.)

"HEAD OF A NUBIAN.

By F. Holland Day

what diffused, but the lines of composition are so strongly marked that it cannot fail to attract the attention of every visitor to the Exhibition. Mr. F. Holland Day is represented by seven frames. His "Head of a Nubian" is extremely strong in modeling and gives the impression of a bas-relief from some dark metal which has caught here and there a glint of light, which makes the contrast very pleasing and attractive. His "Vita Mystica," showing a monk at prayer, is a picture which is worthy of careful study. At first glance one is inclined to pass it by, but little by little

(Philadelphia Salon, 1901.)

"BROWN OCTOBER"

By W. B. Colson.

its beauties become apparent to you, until at length you are led to wonder how at first you could have been induced to think it unattractive.

Francis Watts Lee exhibits ten pictures. Three of them, "The Cloister Door," "Moonlight in the Courtyard" and "The Low Lying Sun of October" are particularly interesting on account of the foreign color conveyed by the pictures. As a matter of fact, they were made in and about the Public Library in Boston, but the impression of convent walls is easily felt; his pictures are all with one exception of large size and strong in treatment.

Zaida Ben Yusuf is represented by ten pictures. Her portrait of "Daniel C. French" is considered by those who are acquainted with him

a very striking likeness in an unconventional pose; her "Autumn" while faint in tone has about it such a dainty air and such a suggestion of an autumnal atmosphere that one is almost in a mind to wish that more had

By Pierre Dubreul.

"FANTASY."

(Philadelphia Salon, 1901.)

been shown to the right and the left of the interesting road which forms the central idea of this picture.

Mr. Charles I. Berg of the jury of selection, is represented by two prints; his "Portrait of Miss F." has much of the quality of the photo-

gravure with an added softness, which is often wanting in many photographs that we have seen.

Frances B. Johnston is represented by one picture, "The Carpenter," which shows a man at work finishing a round table. The subject is treated in her usual vigorous style; the model has actually been pictured at his work, and the realism of the picture is softened by that artistic interpretation of light and shade which shows the trained artist even in the use of a camera.

Allen D. Cook, of the jury of selection, is represented by four pictures. His No. 86, "Portrait of St. Jerome," of Roycroft fame, is an interesting study of a model with an unusually attractive face; one feels as though he had stepped back a century or two, and that the face is that of some great musician

(Philadelphia Salon, 1901.) By Dr. A. Dettelsen.
"FORGIVE ME, I PRAY THEE."

in one of his thoughtful reveries. Rudolph Eickemeyer, Jr., is represented by three pictures, which were also exhibited this year in the London Salon. His "After the Rain" is a delightful foreground study in sepia, showing a bit of road with the pools of water by its side, the mass at the right is agreeably broken up by occasional dandelion balls, just

(Philadelphia Salon, 1901.) "PORTRAIT: MAN WITH DOG."

By Arthur Hewitt.

ready for a passing breeze to scatter their airy seeds broadcast. His "Late Afternoon in Winter" is another charming foreground study in a very light key, which is relieved here and there by the bare stalks of weeds showing through the masses of snow, with an effect quite Japanese.

S. Hudson Chapman is represented by four charming genre pictures with a decidedly foreign air and atmosphere. His "In the Refectory" shows the interior of an old monastery with eleven monks seated at tables around the three sides of the interior shown in the picture. It hardly seems possible that such admirable drawing and

No. 1345

By D. Strickland.

"MRS. GEN. JOHN C. FREMONT."

accurate perspective could be accomplished with a camera, and the grouping of the figures is so well handled that there is a feeling that it is not the work of the camera but a reproduction of a painting of monastic life. His "La Siesta," showing an outdoor group, resting upon the steps of an old building at Tivoli, is a truly remarkable genre picture. There is about it a charming lack of consciousness, for which we must give Mr. Chapman credit of mature judgment in the selection of a right moment in which to transfer to the sensitive plate this very interesting story.

In addition to this there are a great number of equally interesting pictures for which I have not the space for even a brief mention. Among the work of the foreign exhibitors, the "Woodcutters," by Charles F. Grindrod, of England, seems to me the most striking example of an effect which is nearer the work of a Corot than anything I have ever seen. It represents a wood interior with woodcutters at work among the fallen logs. A fire has been kindled and is burning briskly; masses of smoke against the dark shadows of the trees give an effect that is rarely seen in photography. The focus of this picture is diffused, but its value as an exhibition picture is greatly enhanced thereby. There is a feeling of depth to

the picture, of real distance, of the atmosphere of the smoke, that cannot adequately be described.

No. 123, "Spring Time," by James Gale, England, is a large dark print showing a fine sweep of road in the center foreground and running out of the picture at the right: at the left, are fine overhanging trees. Under

the trees sheep are grazing; it is a sweet picture of country life and one of the strong landscape effects shown by our foreign exhibitors.

David Blount, England, is represented by six pictures, of which his "Sleeping Grief" is fully worthy to be called the product of an artist like Burne-Jones. His "Honesty" is probably the largest figure study in the Exhibition, but the title hardly seemed appropriate for the extremely tall female with flowing hair, a loose robe and a bunch of flowers.

Baron W. Von Gloeden, of Sicily, is represented by ten studies. His studies of the nude, amid outdoor surroundings, are somewhat familiar to the readers of this magazine. Of the exhibited work his "Greek Theater," which is purely an architectural study, showing a ruined Greek theater, with an interesting volcano in the background, is by far the most attractive of his exhibits, although his "Rest During Harvest," in which he employs four nude models in a harvest field, is handled with such an admirable sense of the difficulties in the treatment of such subjects, that we can almost forget that the models have been posed for the purpose of picture making.

By Francis Watts Lee.
"BILLY."
(Philadelphia Salon, 1901)

The work of Henri Breux, of Tours, France, consisting of twelve studies, shows far more attention to technical manipulation than much of the work of foreign exhibitors, but his figures are always well posed, and the story so well told, one can readily imagine how much better some of his work might be if less attention had been paid to technique.

Rene Le Begue, Paris, France, exhibits six pictures. His "Summer" is by far the most attractive picture in his collection. His other studies containing nude figures are lacking in that delicate sentiment which is found in some of the work of American artists, who seem to be unable to discern between the nude in art and pictured nakedness.

Pierre Dubreuil, Lille, France, exhibits eight pictures, all of them good. His "Christ in Sepulchre" seems to me the best photographic work

No. 1343

"BEGINNING OF A ROMANCE."

By Geo. A. Custer.

in this direction that I have ever seen. "The Skittles," No. 103, and "Soap Bubbles," No. 106, are dainty effects in gum bichromate; the mounting of No. 106 is peculiarly attractive and decorative; the print, a red gum, is mounted in the lower right-hand corner of the passe-partout mount. The largest margin is at the top and left of the mount, and as the bubbles are floating in that direction you can easily imagine the reason why this space has been left, so that the bubbles may not be obstructed in their upward flight.

With all the success of the present Salon, and with the congratulations which are due to those who have had in charge its management, there must come to many a feeling of regret that a few who have heretofore been prominent in exhibitions of this character are not represented; and with this regret there is also the thought that indications strongly tend to the right to believe that they have not only failed in exhibiting, but have also seriously obstructed the efforts which have been put forth to institute in Philadelphia a Salon which would represent the serious and purposeful work of the typical American School of Photography.

Coloring Lantern Slides.

By H. BURN-MURDOCH.

WHILE it may be true, as the editors have often said, that a photographic lantern slide colored is a slide spoiled, it is no less true that a long exhibition of uncolored slides, even of the best quality, is to most people at least, apt to be monotonous; and it is equally true that when a colored slide appears on the screen, and it hardly matters how poor the coloring may be, it is awarded an amount of applause that cheers the heart of the operator.

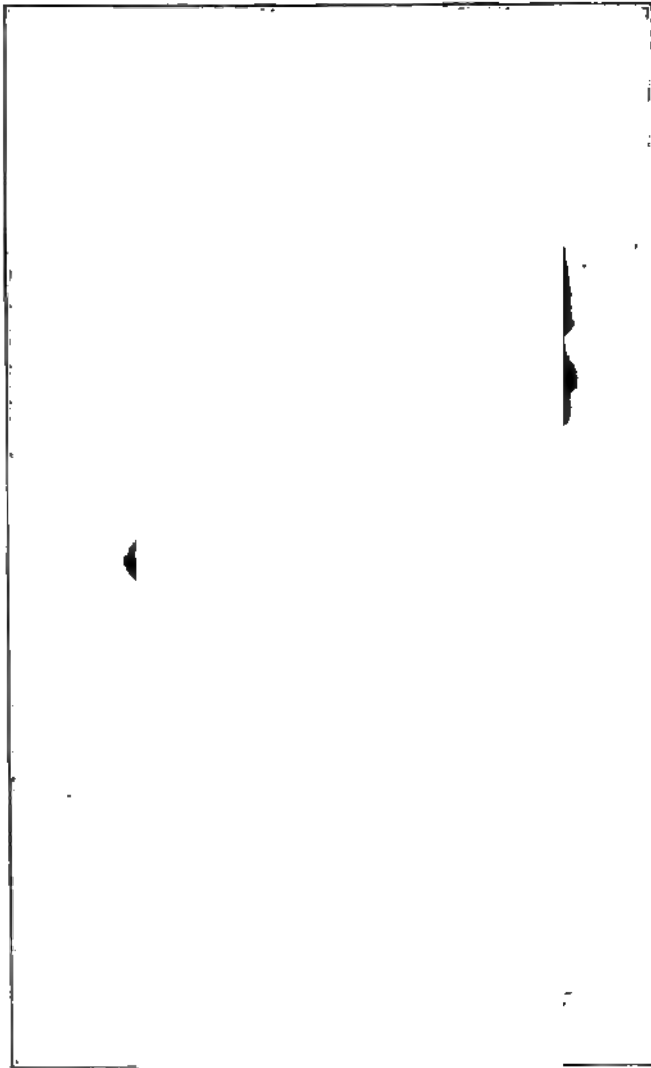
No. 1351. By Frank E. Foster.
"OLD COMPANIONS."

Recognizing this long ago, I have tried many methods of coloring only to discard them, not probably on account of fault in the methods, but of my own want of ability to employ them aright. Recently, however, I came across an article in *The Photographic News* describing the method adopted by a German, a Dr. Hauberisser, which has started me afresh, and although the result is far from perfect, I can see that only a little practice is required to enable me to color slides in a way that shall give a new interest to my exhibitions.

The Hauberisser method differs in three respects from all that I had previously tried, (1) in the preparation of the slide; (2) in the preparation of the colors; and (3) in the way of applying them.

The slide may be made in the ordinary way, but the exposure must

have been sufficient to give all necessary detail, although development need not be pushed to the density required in an uncolored slide. What is wanted is a slide with all necessary detail but in the thinnest possible form, little more than the ghost of an image; and this is most easily got by reduction with ammonium persulphate or other suitable reducer. Just how far to carry the reduction can only be learned by experience, but a few trials will make it come quite easy; after which it needs to be well washed and dried.



(Philadelphia Salon, 1901.) "STUDY OF A HEAD."

By Arnold Genthe.

In preparing the colors the vehicle is of the first importance. It is simply a solution of gum arabic with a trace of glycerine and sufficient carbolic acid to preserve it, but the gum should be of the variety known as "picked," in clear white tears with a clear glossy fracture. The fol-

lowing formula will be satisfactory, and the solution will keep as long as it is wanted.

Gum arabic	2½ ounces.
Glycerine	¼ ounce.
Acid carbolic	40 minims.
Water	10 ounces.

Place the water with the glycerine and acid added, in a tall wide mouthed bottle, and tie the gum in a piece of thin muslin so as to suspend it in the bottle just covered with the water. Leave it thus for a day or so, when it will be dissolved, but do not press out any little sediment that remains in the bag as it would interfere with the desired transparency of the solution.

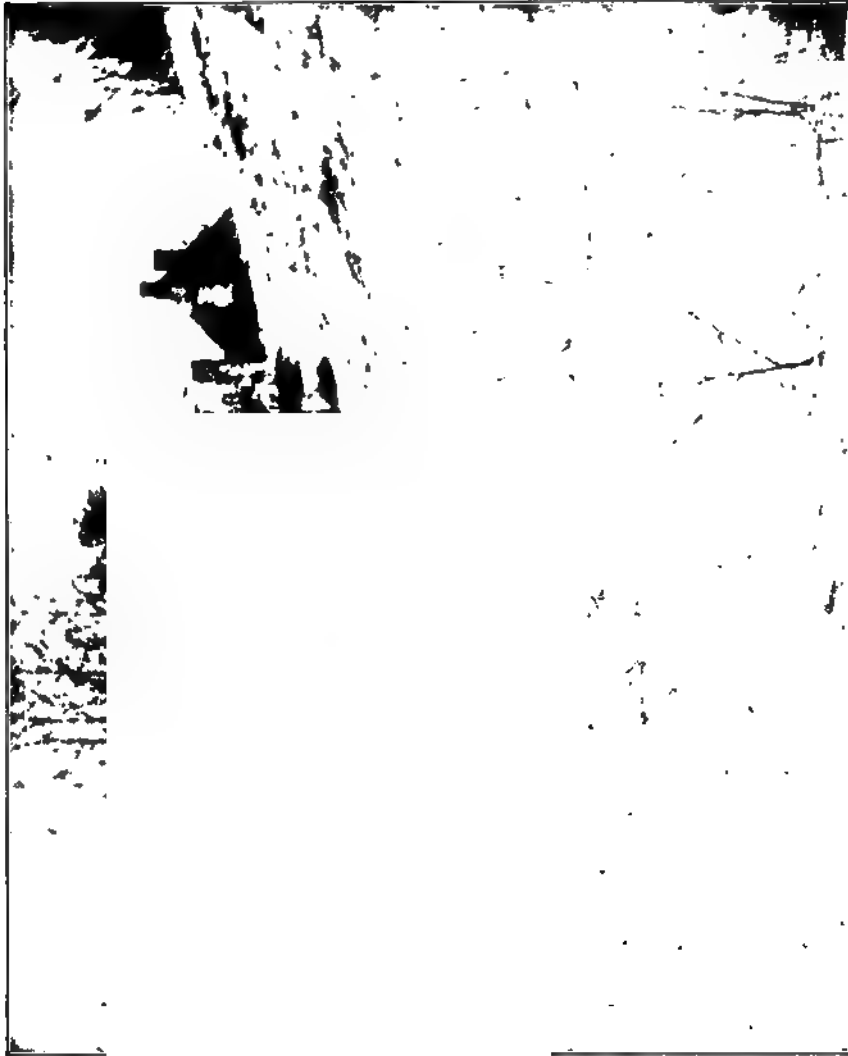
The colors are aniline dyes, and each may select those that he thinks suit him best, only they must be confined to those soluble in water. The following are recommended, although here they may be known by other designations. They are produced by the Badische Anilin und Soda Fabrik, and are *Yellow*, brilliant yellow S and fustic extract. *Green*, dark olive and light green SF. *Red*, platin scarlet. *Orange*, orange II; *Brown*, leather brown G; *Blue*, methylene blue BG, indigotin IN, and neptune green S; *Violet*, methyl violet B, extra; and *Neutral tint*, nigrosin WL.

Solutions of these or other suitable colors should be made with the gum vehicle, of from 5 to 10 grains to the ounce, and kept in bottles ready for use. "Squat" one ounce bottles are convenient, and about six drachms of the gum solution may be placed in each, leaving room to shake till the colors are dissolved after having placed the proper quantities in each. It is better to make the color solutions stronger than will generally be required, and dilute with gum solution to the exact shade.

A convenient easel for the slide and rest for the palette, both of which must lie flat while the operation is going on and till dry, may be made with a box. Mine was a fancy soap box, 9x6, and 3 inches deep. A plate of glass took the place of the cover. One side was removed and covered with white paper, and placed at an angle of 45° under the glass so as to reflect light through both slide and palette, which was also a plate of glass. If operating by daylight the open side of the box easel is, of course, placed close to a window, but as the slides are to be shown by artificial light it is generally better to do the coloring by the same means; a lamp in front of the reflector giving ample illumination.

Thus provided, it is only necessary to have a few very fine pointed sable brushes, one for each of the colors likely to be used, and then go

ahead. *The color is applied drop by drop* and the drops allowed to coalesce, assisted, if need be, by a touch of the point, but under no circumstances is it necessary or allowable to use the brush in the ordinary



By Osborne I. Yellott.

"OVER THE HILL."

(Philadelphia Salon, 1901.)

painting way. Colors may be combined to produce desired combinations or they may be overlapped, but in no case must one color be laid over another till the first is perfectly dry. The secret of success is to go round

the outline with the most minute drops, letting them coalesce, and gradually working inward; and those who have tried, and without success, to color by the usual brushing, will be surprised at the ease by which a fine result can be procured by the dropping method.

Just what colors I used in the coloring of the three slides sent with this I cannot say, as they are part of some thirty specimens given to me by a friendly dyer in Massachusetts, each being labeled only by its color or shade thereof; but bearing in mind that they are the second half of the first half dozen that I have tried my hand at, those that see them will, I think, say that the method offers well.

[We are inclined to go considerably further, to say indeed that if the slides sent by our correspondent are the result of only the few trials mentioned, the method is as far ahead of anything hitherto practiced as the slides are of any that we have hitherto seen except by artists that had spent years of work at slide coloring. The coloring is quite equal to much seen on the London market at half a guinea each, and such as we shall have pleasure in showing at the first opportunity.—Eds.]

Enlarging at Home with Home-Made Apparatus.

BY PERCY DRUMMOND.

WHILE in the April, May and June numbers of THE AMERICAN AMATEUR PHOTOGRAPHER for 1900, Mr. Horace Sampson gave thoroughly practical instructions for the making of enlarged negatives from small ones, such work is undertaken only by those who, for exhibition or other purposes, want many prints from one negative, and who consequently are willing to go to any initiatory trouble to simplify after production, or secure pictures of the highest possible quality. Those are few compared with the many who, although generally satisfied with small and popular sizes, either because of getting a specially fine negative or for some other reason,

would be glad to make one enlargement if they could do it in an easy way, and without having recourse to special apparatus.

My object in this is to tell how it may be done by simply reversing the operation in the camera in which the negative was made, and with only such additional appliances as may be constructed at the cost of but a few cents.

The first thing is to secure the use of a room that can be darkened, if with but one window so much the better, and preferably, facing the north or anything between that and east. The easiest way to darken it is by a frame of say, $2 \times \frac{3}{4}$ wood, strengthened by cross bars in line with the astragals, and fitting closely inside the casing so as to be easily made light tight. Close to where a vertical and horizontal astragal meet an opening or small window the size of the back of the camera must be made and left uncovered while the rest of the frame must be made opaque by paper or cloth, so that the room shall be entirely dark except for what light passes through the small opening. Any arrangement that will support

(Philadelphia Salon, 1901.)

"LANDING THE LIFEBOAT."

By W. B. Colson.

the camera with its back in the opening will do; the simplest perhaps, being a table with its end pushed close to the wall under the window.

Supposing that the negatives to be enlarged are the size most generally used, 4×5 , and that the enlargement will be about three diameters, giving from the generally available part of such negatives a picture of about 12×10 , a size suitable for either exhibition or decorative purposes, the table must be at least three feet in length, and a little longer will be better. The lenses in such cameras are generally between six and seven inches focus, and with one of six and a half, and for an enlargement of three diameters the negative will be about nine and the paper about twenty-six inches from the optical centre of the lens, a distance of about thirty-five inches between negative and paper.

The easel may be anything that is perfectly flat and to which the paper may be easily fastened. A soft wood drawing-board answers finely. It may be fitted with two cross pieces of wood by way of feet, and if they are fixed quite square to the board it will facilitate getting the paper perfectly parallel to the negative; and it should be covered with a sheet of white paper on which to focus.

If the window is clear of houses, trees or other obstruction in front nothing more will be required, but if not, a reflector must be provided. This may be a board considerably larger than the opening through which the light is admitted to the negative, resting its lower edge on the window

(Philadelphia Salon, 1901.)

"PUTTING ON THE GREEN."

By W. A. Roger.

sill outside, and with a cord from one of its upper corners passing through, so that from the inside it can be raised to the desired angle, about 45° or 50°. If this is covered with white paper or a sheet of white cardboard laid on it, it will give a plentiful and even illumination.

With such an arrangement the first step is to adjust the apparatus so as to get the enlargement to the desired size. This is effected by the mutual moving to and fro of both lens and easel, and the next to focus accurately. This is of course, done on the white paper of the easel and a pencil mark made so that the paper may be placed on the right place. For many reasons, a cap with a yellow glass is to be recommended as giving light for some operations that otherwise would have to be done in darkness.

I do not know that I can recommend any particular brand of bromide paper as being better than another. I have tried almost all, and, although some require very different treatment from others, have been fairly successful with all. Just what that treatment is experience alone can show, and a few experiments will tell more than could be told in many pages of writing. Whatever the paper may be, the first step is to expose a few trial slips diagonally across the image, and as in enlarging success depends much more on correct exposure than on anything else, it is well worth while to make sure. It is better to use ten strips with the outcome of an exposure in every way satisfactory, than to waste one or two 12x10 pieces of paper, and even then to wish you had given it just a little more or a little less.

Development may be conducted under a fairly brilliant yellow or orange light; it is astonishing to those who have developed plates only in the necessary dim ruby to see how much of a yellow or orange the most sensitive of the "gaslight" papers will bear; and it may be taken as an axiom that the more light there is, so long as it does not degrade the lights, the greater the comfort and the success in development. Of developing formulæ there is a wide choice, nor can I say that any one is better than another. My own preference lies between amidol and such mixtures as the "Metol-Hydro" of Carbutt, or the "M. Q." of the Nepera Co. When using amidol I keep on hand a ten per cent. solution of sodium sulphite to each ounce of which has been added half a grain potassium bromide, and just before using add the dry amidol to the extent of about five grains to the ounce. With properly exposed paper this gives warm velvety blacks without tendency to stain either the paper or the fingers. Quite as fine prints may be developed with Carbutt's Metol-hydro powder, the smaller tube dissolved in six ounces of water; and probably also with any of the "aromatic" developers, the formulæ more or less diluted according to the effect desired, as in most cases the tone of the print varies with various strengths of the developer. One fact should be kept in mind, *viz.*, that while bromide seems necessary to secure purity in the whites, it should be used with caution, more than is absolutely required having a tendency to give a greenish shade to what without it would be pure black.

Whatever the formula adopted, the first step is to soak the printed sheet in water. It should be immersed, face up, in the dish until quite limp, taking care that any air bells that may have formed are removed either by a brush, or, as I prefer, by passing the fingers gently across the surface. The water is then gently poured off, the print, by one finger pressing on one of its corners, being kept in position in the middle of the dish, to which it will adhere, and the developing solution poured on with

(Philadelphia Salon, 1901.)

"BUT A MONTH TO SPRING."

By Wallace N. Vreeland.

a sweeping or nonhesitating motion, and the dish kept rocking till the action is complete. From the developing to the fixing solution the print may be transferred direct, and a twenty per cent. solution of sodium hyposulphite should fix it thoroughly in ten minutes; after which washing for an hour in running water, or in eight or ten changes should complete the enlargement.

It may be, however, that neither the camera by which the negative was made, nor any other camera in the possession of the amateur is suited for enlarging in this way. The back may not be removable, or it may not extend to the nine inches required between the negative and the lens for en-

No. 1355.

"SCENE IN MAINE."

By W. H. Blacar.

larging to the extent of three diameters, and indeed there are several other conditions required for the purpose not to be found in such cameras as are generally to be found in the hands of the average amateur, but the difficulty is easily overcome. If he is content to confine himself to one size of enlargement from one size of negative a simple box open at one end and with a hole for the lens in the other will answer his purpose as well as the most highly finished camera. He has only to ascertain the focus of his lens, consult a "table of distances" and make the box of the required length. Or, with little more trouble, he may make the box double, the one sliding into the other, and so be able to vary at will the number of diameters to which he may enlarge.

Taking it for granted that he means to stick to 4x5 negatives, he has

only to make two boxes, one 4x5 inside measurement, open at both ends, and at one of which there is a groove to hold the negative; the other of such a size that it will slide over the first, telescope fashion, and close at one end. The length of the boxes will of course, depend on the focus of the lens, but supposing it to be about the 6½ already mentioned, boxes of each seven inches would admit of anything from copying to same size to enlarging to seven diameters.

A few words in conclusion, on the paper to be selected; not as to brand but surface. It is frequently asserted that smooth surface paper should be confined to small sizes, and for larger pictures the rougher varieties, the roughness increasing in proportion to the size. But this is not the right view. The finest platinum print I ever saw was on rough paper and it was only 2x3½ in. It was one of the earlier prints made by Willis himself when he first began to exploit the method, and included only a little vessel in a tidal stream; but the massing of light and shade and the atmosphere were simply perfect. The surface should be chosen to suit the subject; smooth for the portraits of women and children, or where detail in any particular part is desirable, and especially in architectural and other interiors altogether irrespective of size.

On the other hand, the rugged old ruin, the landscape with distant mountains where atmosphere renders a charm to the whole, or rustic cottages with their surroundings, the rough surface helps to blend the lines and mass the light and shade, thereby adding to the æsthetic beauty and artistic quality of the scene.

As to whether the slow or the rapid varieties of the paper should have the preference I am not so confident, as I have succeeded equally well with both. On the whole, however, I am inclined to recommend the slow, although it might be different when using artificial light. Working by the method here suggested, it matters little whether the exposure be thirty seconds or three minutes, and with the slower varieties of the bromide paper, as with the slower varieties of the ordinary dry plate, there is greater latitude both in exposure and development.

It is reported on good authority that the head of the Lumiere N. A. Company, Ltd., has just returned from a visit to America, during which he had secured a suitable locality in which to establish a factory for their well-known plates. They will find the plates of our makers hard to beat in anything but speed, although we have recently found reason to believe that in that there is still room.

Words from the Watch-Tower.

BY WATCHMAN.

WILLIAM D. WILLIAMS, in a recent number of *The Camera*, goes out of his way a little in trying to say something not very nice about me; but as he has not yet got beyond believing that halation is desirable in at least some branches of pictorial photography, or that halation may be obviated by black velvet placed behind the plate, I shall leave him alone for the reason that the big man gave for allowing his little wife to beat him.

* * *

Vive Photography. Hear what Mr. G. Bernard Shaw, critic, author, and playwright, says of it in *The Amateur Photographer*.

"In this year's exhibitions I find two portraits of myself—one in the Salon by Frederick Evans, the other in the New Gallery by Furley Lewis. Compare them with the best work with pencil, crayon, brush, or silver print you can find—with Holbein's finest Tudor drawings, with Rembrandt's Saskia, with Velasquez's Admiral, with anything you like. If you cannot see at a glance that the old game is up, that the camera has hopelessly beaten the pencil and paintbrush as an instrument of artistic representation, then you will never make a true critic: you are only, like most critics, a picture fancier." Of course, the value of such a statement depends on the extent of our confidence in the judgment of the man that makes it, and as, according to the editor, "Mr. G. Bernard Shaw is by no means convinced as to the advisability of vaccination," that, to me at least, materially lessens his authority.

* * *

While second to none in my admiration for the work of Rudolph Eickemeyer, there surely is a limit to its value, and it is equally clear that he has exceeded it in placing \$1,000 on his "When the Daylight Dies," exhibited at the Detroit convention. Will Armstrong, in *Wilson's Magazine*, says, "It failed to win popularity, and the absurdity of the price aroused adverse criticism." I don't wonder at it. I can understand "Not for Sale," but \$1,000 for even the best photograph is just a little too much.

* * *

The following paragraph, which I clip from *The British Journal of Photography*, applies so well to what may be seen on almost any train during at least five months in the year, that I cannot resist repeating it.

"It would be interesting to know the value of the gelatine plates which are spoilt and thrown aside as useless in the course of a single year. Certainly, in this country alone, the amount would tot up to a very high figure, for it is only the experienced worker who can turn all the twelve plates in a box into serviceable negatives. And when we come to consider the case of the presumptuous tyro who skips in boldly where a seasoned photographer would fear to tread, the havoc in the silver-bromide must be appalling. These thoughts were suggested to us the other day by watching the photographic operations of a young lady who happened to be in the same carriage with us of the boat express from Dover. She had a hand camera, and was prompted by her companion, who evidently knew the country much better than she herself did, to take snapshot after snapshot through the carriage window, although the train, which had been delayed at Dover, was traveling at its utmost speed. 'Now then,' would say the companion, 'get ready for Canterbury Cathedral.' 'No, that's not it; that's the Old Castle. There it is.' In another minute, 'There, that's a hop garden; I should have a shot at that, if I were you,' and so on through Chatham, Rochester, etc., until, heaven be thanked, the stock of plates came to an end. It would be interesting to witness that young lady's dismay when she sees the results of her efforts to catch the fleeting scenery of Kent through a railway carriage window. Probably she will blame the plate-maker, and try another brand."

* * *

We are never too old to learn, and most of us have much to learn about lenses, so that when an optician speaks we should lend him a willing and attentive ear. In *The Photo-American* for October one such tells us something that, if true, will go far to make underexposure, even in snapping, a thing of the past.

Speaking of lenses in which the chemical and visual foci are not coincident, he says: "If the scale is placed in the camera when the visual focus is determined on the ground glass, and the focus is then shortened according to the scale, we shall find that our *lens will be increased in rapidity 50 to 60 per cent. over that of a modern anastigmat of a large number*. The italics are mine, but the statement is worthy of them. Can it be true that even an "Optician" may "gang a kennin wrang"? Nor is it on the lens only that our optician's teaching is—well, doubtful. He is equally hazy in his notions as regards some of the properties of the light which the lens is intended to control. Speaking of the "chemical rays," presumably the actinism, or that something in light that produces the latent image, he says: "It is the chemical rays in the light that makes the grass grow, and the expression, 'I saw the corn had grown during

the night,' is perfectly correct, as *when the light rays are gone the chemical rays are more powerful, as they are not hindered in their work.*" The italics are mine again, and the statement is equally important, as if true why should we not be able to photograph at night as well as by day?

I hope the optician will not think I write in a carping spirit. Placed in my observatory, it is my duty to see that statements so apparently contrary to our present notions are not, without careful consideration, copied from text-book to text-book, and so pass into history; and I shall be glad indeed if his notions regarding the extra rapidity of uncorrected lenses and actinism without light can bear the test of practical work.

* * *

It is sometimes said that no class is so intemperate as temperance lecturers, but I think there are some would-be art critics who are not far behind. Hear what Mr. Antony Guest, in a notice of the British salon now open, says of people who may not know as much about art as he does, but who, or most of them at least, would think twice before they would speak so disrespectfully of their neighbors.

Speaking of the salon, he says: "It has a significance that, as it seems to me, foreshadows a deadly conflict in the near future, when on the one side will be arrayed professional photographers, publishers, 'art editors,' and all the thoughtless people who have combined to vulgarize photography by their affection for machine-made pictures; while on the other side will be the small but steadfast group who repudiate the inaccurate accuracies of the kind of photography with which we are commonly afflicted, and who wish to raise their craft into a medium for the exposition of beauty and art. It is worth while to fight for the clearance of the pictorial rubbish that is undermining the artistic standard of the day, and for the substitution of something better."

Without knowing much about art, I yield to none in my admiration for some of the work which our critic is so anxious to see more widely spread, and for the men and women who are doing so much to advance it; but it will be a bad day for photography when, if what he terms "inaccurate accuracies" be straight photography, or the simple record of fact, is altogether displaced by the straining after its pictorial effects, however good they may be. But of that there is little fear; there will always be room for both, and the truest friends of the art, the art with the little a, are those who will do their best to encourage both. The excellent advice of the editor of the magazine in which Mr. Guest's notice appeared, *The Amateur Photographer*, applies equally to both classes of photography. "Let us pass with silence that which pleases us not, or with patience enquire its meaning if there be but a trace of evidence that

the work is seriously intended," and again "I would fain induce you yourself to cultivate that right taste which is characteristically patient, and does not trample on what may appear as husks, lest it should be pearls, nor send up thorns of unkind thoughts to choke the weak seed."

* * *

Who shall say that photography is losing its hold when they hear of the prices that are being asked, and, what is a little better, being also paid? Some time ago I recorded the fact that Mr. Stieglitz had been paid \$50 for one of his well-known and universally admired prints, but at the time something was said about "particular circumstances;" but now in an ordinary exhibition, to wit, the British salon, I read that the well-known "Manger," by Mrs. Gertrude Kasebier, is priced at twenty pounds sterling, practically \$100.

Notes.

THE CAMERA FIEND has overstepped the bounds of discretion and through the President's well known dislike to be snapped at, has been the means of closing the grounds in the rear of the White House to the public.

It would seem that since the President and his family took up their residence there, crowds have assembled at the times at which it was known he would mount his horse for his daily canter, or when the children would be at play, and as they included more than the usual number of ill-mannered camera carriers who employed those toys with more than the usual bad taste, the President cannot be blamed for thus defending himself and his family from such vulgarity.

* * *

DISCOURAGING TO WOULD-BE RADIOGRAPHERS.—Photographers who may be thinking of trying to add to their incomes by the practice of radiography should take to heart the following utterance of one of England's most experienced radiographers. It occurs in an article on "Radiographic Work," in the *Pharmaceutical Journal*. "Fortunately for the future of science, it is quite impossible for a conscientious operator to make the practice of the X rays lucrative. The rapid deterioration of plant, the continuous expense entailed by experiments, and the comparatively small number of cases in any district precludes this; but against this, as a pursuit it offers endless opportunity for original work and discovery."

A NEW BLUE IN THE SPECTRUM.—Dr. Luppo Cramer, in sensitizing for the red by chlorophyl, has discovered a blue beyond the red which puzzled him considerably; and which Dr. Buss thinks may be due to rays twice the wave length of the normal blue. This opinion is strengthened by the fact that in the Lippmann process emulsion of grain so coarse as not to give the normal blue, or even green, readily shows a blue beyond the red. The new band has been provisionally named contra-blue, and the discovery should be of considerable interest to all engaged in the study of color.

* * *

THE PERMANGANATE REDUCER.—We have had many complaints regarding the tendency of this excellent reducer to produce stains that even the oxalic acid could not remove, and so are glad to give the following method for the production of a substitute for sodium bisulphite, which Prof. Namio, says is a perfect cure. We clip the formula from *The British Journal*.

Sodium sulphite	150 grammes.
Acid oxalic	30 grammes.
Water	1 litre.

Immersion in this solution is said to remove every trace of the hitherto troublesome stain.

* * *

A RECORD.—We on this side are sometimes accused of boasting of the big things that we are able to do, but surely none of us ever claimed the ability to do a week's work that could hold the candle to the following that appeared in *The British Journal of Photography*. "I took nearly a hundred sitters yesterday (Saturday), and the Saturday before I had to have a policeman at the door to keep the people moving. We had to send the town people away, as country people came in such numbers. I did over a thousand cabinets last week, the whole of it by myself, in addition to forty-eight enlargements, and taking all the negatives."

* * *

SELF CRITICISM.—We have often said that one of the most pressing needs is that the photographer should be able to criticise his own work, and clip the following apt illustration from *Photography*, although the writer evidently thinks he has caught the judges napping rather than shown his own inability. "My picture! ! at the R.P.S. was fished out of a box of wasters, and sent in as a sort of joke to make up half a dozen. Some of the other five I thought in my innocence of heart to be decent. They were ignominiously 'chucked,' and 'the waster' hung (or hanged). It has since developed smallpox. Print, frame, and glass cost 8d."

THE KEEPING OF CARBON TISSUE.—One of the greatest drawbacks to the use of carbon tissue by the amateur who prints only a print or two from time to time, is that in the sensitized state it will keep only for a few days, and that after printing it must be developed at once because of its well known "continuing action." According to *The British Journal*, the Autotype Co., have overcome both these drawbacks by the introduction of a box in which the cut and sensitized sheets may be kept flat and under pressure for at least three months; and one or two may be printed from time to time and returned to the box to be developed all together without fear of over printing from continuing action or insolubility. In addition to a means of making the box air-tight there is enclosed a piece of fused calcium chloride, an arrangement simple enough for any one to make for himself.

* * *

THE INFLUENCE OF THE AMERICAN SCHOOL.—Speaking of the approaching exhibitions of the Royal Society and the Salon, *Photography* says: "There can be no doubt that figure subjects and portraiture will enjoy a marked prominence, and the influence of the American work shown at Russell Square last autumn will be very marked. We prophesied at the time that that exhibition would have such a result, and can enjoy the luxury afforded by the reflection, 'We told you so.' Alone among the photographic journals *Photography* welcomed the introduction of so much that was not merely novel and eccentric, but sincere and thoughtful, and we are already in a position to judge, as our readers will be when the doors open, how great, and in the main how healthy and beneficial, is the influence of the 'American school' upon the British worker."

The Philadelphia Salon.

FORTUNATE it is for the Photographic Society of Philadelphia, that they have the co-operation of the able management of the Pennsylvania Academy of the Fine Arts and the use of its galleries for their annual Salon. The cause of photographic art is immeasurably advanced by such congenial and elevating associations and the directors of the Academy are and ought to be proud of the exhibit now upon their walls. The Fourth Philadelphia Salon will do more than any previous exhibit in establishing photographic art in its true place among the fine arts, notwithstanding the absence of the pictures of many well-known workers.

The Salon committee, Messrs. S. Hudson Chapman, Benjamin Sharp

and Joseph H. Burroughs worked arduously and obtained 1,200 entries of which 281 were accepted by the jury. Messrs. Chas. I. Berg, Allen Drew Cook, Geo. W. Hewitt, Dr. Herbert M. Howe and Miss Frances B. Johnston, as jury of selection, were unusually severe, on account of the large number and the prevailing high quality of the pictures. During the selection, Miss Frances B. Johnstone involuntarily remarked that the entries, in artistic quality, ran fifty per cent. higher than the pictures that she helped to judge in the same room two years previous.

The weird exhibits of some previous salons are conspicuous by their absence, also portraits and head studies are less in evidence. Variety of subject, of treatment and of tone being a principal feature. Platinum prints predominate, and the tones most suited to the subject so deftly obtained that it is hard to believe some of the pictures are photographic productions. There are also numerous gum prints, not the dauby, streaky things that we have seen, but work that delights the eye as well as affording mental stimulus. Next in number is carbon and there are quite a few Aristo prints.

Our illustrations do not pretend to show the quality of the work, neither are they supposed to represent the best pictures in the Salon. We reproduce them to show our readers what simple subjects, by thoughtful posing, skillful treatment and artistic mounting can be transformed from mere record of fact photographs into perfect pictures. Half tone reproductions can only give a vague idea of the original, as instance "The Last Load," by Curtis Bell; this, although a hackneyed subject, is one of the gems of the Salon, printed in blue-green carbon with dark green mat and frame.

Next month we will reproduce more of the Salon pictures and revert to the subject again.

The attendance, notwithstanding inclement weather, has so far exceeded that of previous years, and public opinion, as gathered from the remarks made before the pictures, fully indorses the opinion of the jury and the high standard of the Fourth Philadelphia Salon.

The British Exhibitions.

THE exhibitions of the Royal Photographic Society and of the "Linked Ring," or as it is more generally called, the Salon; are in full swing while we write; and we gather from our exchanges, although the diversity of their opinions is amazing, that they are fully above the average. As was to be expected, the grotesque and the eccen-

tric are very much less in evidence, and although what was called "The American Invasion" has influenced many of the exhibitors, they have wisely refused to be guided by the more erratic of the invaders.

Nor is it matter for wonder that the Salon at least should have the American flavor. Of the 284 frames on exhibition, 104 are by Americans as against only 136 from the whole of Great Britain. We should not however, attribute the comparatively small number of British exhibits to any lack of interest in the Salon, but rather to the probability that so many would-be exhibitors have failed to reach the Salon standard, as it is reported, on what authority we do not know, that something like 800 frames were rejected.

Concerning the exhibition of the "Royal," thanks to the Assistant Secretary who sent us a copy of the catalogue, we are better informed. For forty-six years this exhibition has been something like an annual report of the progress of photography, and unlike the Salon, tells, or should tell of the progress of every phase of the art.

Although there are altogether 583 numbers in the catalogue exclusive of trade and other exhibits, we shall confine ourselves to the "Selected pictorial photographs" of which there are 342. Ten of those are indicated by "Thumbnail" drawings and twenty-four by fairly good half-tone whole page engravings. While these may not be the best,—there is no universal best, of the collection, they are with one exception, pictorial photographs of the truest and best kind, the kind that will last while the erratic and the grotesque shall be forgotten or remembered only as "Pre-Raphaelitism" is remembered. The exception is Steichen's "Solitude," the title of which is as great a puzzle as is the trimming of the picture. That there is power in the piercing eye and even in the claw-like hand is no reason why such absurd eccentricity should be encouraged.

While the influence of the American school is considerably in evidence, we do not find in the catalogue more than thirty examples of its work, and most of it, so far as we can make out, is of the better, that is of the less eccentric variety, "The Bridal Rose" by Eickemeyer, being an excellent sample and a magnificent picture.

As in previous years, we have been interested in learning from the catalogue just what printing methods were most in favor, and are glad to see that platinum and carbon are still at the head; the former claiming 135, and the latter 100. Bromide follows with 53, gum-bichromate 21, ozotype 8; and silver in the form of "P. O. P.," the method of all others most favored by the professional photographer, has been employed in the production of only six exhibits.

Commercial Gum-Bichromate Paper.

GUM-BICHRIMATE, a revival of one of the earliest attempts at carbon printing, did not succeed then because it was before its time, prints being valued in proportion to their degree of gradation and perfection of definition; and when photographers learned to appreciate breadth and boldness, it encountered considerable ridicule by the less advanced and was accused of difficulties that were more apparent than real.

That it has come to stay, however, is evident from the fact that, as will be seen from our notice of the Royal and Salon exhibitions on another page, the former contains twenty-one examples of it, and the latter probably twice that number.

The only real difficulty, and it is one that is easily overcome by a little practise, is the coating of the paper; and even that need no longer be a drawback, as paper of excellent quality ready to be sensitized is now a commercial article.

The paper to which we more particularly refer, is made by a German house, Hochheimer & Co., Mr. G. Gennert being sales agent for this country. To the latter we are indebted for the packet from which we have been enabled to make many successful experiments, and can assure our readers that it is as easily manipulated as "P. O. P." when only straight prints are wanted; and gives a degree of control limited only by the skill of the photographer who knows what he wants and how to get it; and we may add, that for tolerably large work, where boldness and breadth are desirable, it is probably the best of all printing methods.

The packet contained nine 12x10 sheets, assorted colors, so that the paper might be economically cut to about the size to which the print might be trimmed, and a color most suitable to the subject selected; and it was accompanied by a quantity of extremely fine sawdust to be used when that method of development was adopted.

In our first experiments we followed as far as possible the instructions accompanying the paper, but as the formula was partly in "parts" that might mean anything, and partly in "drops" hardly more definite, we had to do a little guessing. The following, however, is near enough,

Water	10 ounces.
Potassium bichromate	250 grains.
Alcohol	250 minims.
Ammonia	10 minims.

The paper is taken by two corners, diagonally, and passed through the solution backwards and forwards for about thirty times, then, coated side up, drawn across the edge of the tray to remove the solution from the back, and hung up to dry in the dark, or in the dark room. The sensitizing may be done in the light as it is not sensitive while wet.

For printing, some form of actinometer is desirable, there being no trace of visible image, but we found the time required to be a little less than for the ordinary gelatine paper such as solio or albuma.

In the absence of the zinc dish and suitable stand as shown in the cut, we used an oval "granite" baking dish, and extemporized a support for the sheet of zinc a little broader than the print, and turned up at the edges to keep the developing solution from running off while being poured over it. The print, on removal from the printing frame or within a few hours thereafter, was first placed in cold water for from ten to fifteen minutes, then into water at a temperature of about 80 F., for about the same time; and then laid, face up, on the zinc plate. While the last two operations were going on the spirit lamp below the dish had raised the water in it to about 100 F., and sufficient of the sawdust was added and intimately mixed to make it of the consistence of very thin cream, or a little thinner; and development consisted in ladling it out by a sauce-boat or other suitable vessel with a spout and pouring it first along the top of the print, letting it run down and back into the dish, and then, and from such a height as seemed desirable, on such places as seemed necessary. The temperature of the water, the quantity of sawdust, and the height from which the solution may be poured, all may be modified according to whether the exposure has been over, under, or correct, and will be found to be very much simpler than it appears from the description.

The developed print is next washed under the tap or in several changes of water, placed in a 5% solution of sodium bisulphite or, what is just as good, the ordinary solution of alum; washed again and hung up to dry; and if everything has gone well, there will be a print of which the most advanced photographer need not be ashamed.

Further experiments showed that the paper is amenable to ordinary and what may appear simpler treatment. The sensitizing may be done either by immersion, or floating on the back, the only care required being that air bubbles are not formed. The time of immersion has some

influence on the degree of sensitiveness, and the suitability for thin or dense negatives. This, however, can be learned only by experience, but the results are worth all the trouble necessary to acquire it.

Development may also be conducted in the ordinary way; that is, as ordinary carbon is developed, and the brush may be applied instead of the sawdust. The best way is to thoroughly moisten the print, or rather the printed tissue, in cold water, and then to gradually increase the temperature, rocking the dish the while. As development approaches completion and when one has decided that a light needs intensifying or an objectionable feature to be removed, we find it a good way to partly empty the dish leaving only sufficient of the water to enable the print to be uncovered by tilting, and to apply alternately the lightest touches of the brush and the flowing back of the water. Washing and aluming as before completes the operation; and the pictorial photographer who will give the method a patient trial, especially with this excellent paper, will find that he has acquired a new power for the production of pictorial effect.

Acetylene in the Dark Room.

THOSE of our readers who are interested in acetylene, and photographers generally should be so, will remember that when writing of its advantages as an illuminant for projection, printing, and other purposes, in our number for June, 1900, we said of the generator we then employed, "So far as we can see, the generator has only one fault, it does not admit of turning off the lights and leaving it ready for use at another time. The moistened carbide continues after it has been lifted out of the water to generate, and although it is very slowly, it would ultimately raise the bell to the outlet at the bottom and fill the room with the well-known smell of the gas."

Notwithstanding that, however, we continued to employ the generator for projection printing, and even in our study, content to charge it every day or as often as might be necessary, and setting it outside when not in use, or at night; content to take the little trouble for the greater convenience and utility of the light, until J. B. Colt & Co. solved the difficulty, by sending us one that, for our purposes at least, is simply *ideal*.

The cut will give a general idea of the appearance of the generator, which is the No. 102 of their catalogue, the cylinder measuring 12x9 inches, and the bell which fits inside, 9 inches deep. When charged ready for use it weighs 12 pounds plus the weight in water of the contents of a cylinder 9x9 inches, and so is easily moved from place to place wherever it may be required.

The "Ideal" generator differs from that described in the number of the magazine already referred to in the important fact that while in the latter *the water was fed to the carbide*, with the former *the carbide is fed to the water*: fed automatically and just in the quantity required. The arrangement although very efficient, is extremely simple. The vase-like top is the carbide holder, and feeds through an opening controlled by a valve at the point where it is joined to the cone forming the top of the bell. The cover, which is attached to its upper edge by a flexible diaphragm, carries a rod the lower end of it furnished by a button-like valve which is lowered by a loading on the cover to let a quantity of the carbide fall into the water, and raised by the pressure of the gas as soon as formed.

Charged with 2 lb. of carbide; the charging, including the filling of the tank and bucket to the desired height with water, occupying less than five minutes; and using the Colt's four flame burner described in the article already mentioned, we, on an evening of recent date, gave a lantern exhibition of over an hour, getting a brilliant six feet disc; and another for the same length of time on the following Friday, the generator standing during the interval in our study without a trace of the well known smell; and that the carbide was not even then exhausted was evident from the fact that we attached the tube to a single burner which lighted the room for over an hour.

As the pressure is practically constant, and the actinic value of the light from ten to fourteen times greater than an ordinary gas flame, a $\frac{3}{4}$ ft. burner gives an ideal light for printing the so-called "gaslight" papers or lantern slides by contact; and with the four flame burner we find it easy to make slides by reduction in the camera.

In conclusion; our experience with the "carbide-feed" generator warrants us in saying that those who are not fortunate enough to have electricity laid on, and who do not care to go to the trouble and cost of the lime-light for parlor or even schoolhouse exhibitions, and who will give it a single trial, will never again put an oil lamp in their lanterns; and that the "gaslight" paper printer and lantern slide maker will, by its employment, save both time and money.

A Mammoth Photographic Company.

The name of George Eastman, connected with companies photographic, signifies wonderful, undreamed of combinations, in the way of promoting, selling and manufacturing photographic goods of various kinds, of a uniform standard quality, at a reasonable price on a business basis. His genius in effecting such notable combinations has just been illustrated by his success in convincing the stockholders of the English Kodak Company, "Kodak Limited," which controls 98 per cent. of the stock of the "Eastman Kodak Co.," to transfer and exchange their holdings to a new American company, called Eastman Kodak Co., of New Jersey, capitalized at \$35,000,000, for the purpose of avoiding the heavy income tax the English tax commissioners impose upon the profits of Kodak Limited, even when such profits accrue in a great measure to American stockholders.

According to a report of a general meeting of the common stockholders of "Kodak Limited," held in London, on November 12th, which we find in the "British Journal of Photography," a resolution was adopted authorizing the Kodak Limited to reduce its capital stock to £250,000, or about \$1,210,000, and to give stockholders in "Kodak Limited" new shares of the New Jersey Kodak Co. at certain specified rates of exchange.

The chairman, Sir James Pender, stated among other things that the new company had the opportunity of taking over some valuable competing concerns who declined to combine if they were to be subject to the income tax. The directors believed that the proposed combination was good for the consumer as well as for the producer, as it would, in their opinion, lead to better goods and lower prices. He stated emphatically that they did not desire to create a monopoly in photographic goods, that their policy to-day was the same as that of the past, and it had met with

marked success. The plan now was for the New Jersey Eastman Kodak Co. to practically take over a large proportion of the Kodak Limited stock, to also secure the stock of the General Aristo Co., on a basis of exchange of shares of stock agreed upon, and also to acquire competing dry plate and photographic material manufacturing establishments in Europe and America.

If all the businesses proposed were combined, it was estimated the profits of the new company would be 10 per cent. on the common stock, which would mean 20 or 25 per cent. to the holders of stock in "Kodak Limited."

The most important question was that of management, and in this respect there would be no change.

Mr. George Eastman, managing director, at a meeting of the preferred stockholders, held afterwards, stated that there was something of a popular idea abroad that it was their ambition to create a monopoly in the photographic trade. That was not what they were striving for, and if it were, it would be impossible to get it. But any part of the photographic trade which they could get by giving the customer better and cheaper goods than any one else, or by giving the dealer a better profit so that it would be to his interest to push them—that part of the trade they were after, and however much of anti-monopoly cry might be raised by their competitors, it was not likely that they would slacken their efforts. That kind of monopoly was good for society at large, and just so far as it was good for it, would society encourage and permit it, and no further.

What other American concerns are to be included in addition to General Aristo was not stated, but it is rumored that several plate and lens manufacturers are to be in it. At any rate Mr. Eastman, as the moving spirit, seems assured of success, which he has so well deserved.

THE AMERICAN AMATEUR PHOTOGRAPHER prize set of lantern slides may be engaged for home use by any of our

subscribers. Express charges to be paid one way. Address communications to F. C. Beach, 361 Broadway, New York.

Society News.

Secretaries of camera clubs or photographic societies or associations are respectfully requested to send to Dr. John Nicol, Tioga Centre, N. Y., reports of meetings, copies of papers that have been read before the members, or anything of general interest to our readers.

THE AMERICAN LANTERN SLIDE INTERCHANGE.—The annual meeting of the Interchange was held at 361 Broadway, in this city, on the evenings of November 21st and 22d, with a full board of managers. Present: F. C. Beach, of New York; Wm. H. Cheney, of East Orange, N. J.; W. H. Rau, of Philadelphia, Pa.; Herbert F. Smith, of Syracuse, New York, and John P. Zenner, of Buffalo, New York. At this testing there were lantern slides from twenty-eight different clubs or societies, covering a territory from Tacoma and Seattle in Washington (the extreme northwest), and San Diego, Cal. (the extreme south), and east as far as the State of Connecticut, and north in Canada. Besides this there were seven clubs to hear from, including the Portland (Oregon Camera Club), the California Camera Club, of San Francisco, Cal., the Detroit Camera Club, Hamilton (Canada) Camera Club, the Y. M. C. A., Brooklyn, N. Y., Central Camera Club, the Camera Club of New York, and the St. Paul, (Minn.) Camera Club.

Altogether there were about 2,619 slides received, of which 1,400 were tested in the lantern the first evening, and the balance the next night. From these very nearly 1,200 were approved, which resulted in the throwing out of one club and the suspension of another, for the time being. The Department of Photography of the Brooklyn Institute decided not to enter this year.

The new clubs applying for membership were the Washington Camera Club of Seattle, Washington, Washington Camera Club of Tacoma, Washington, St. Lawrence Camera Club of Ogdensburg, N. Y., Akron Camera Club of Akron, O. (this club was in formerly for one season), Colorado Camera Club, of Denver, Colorado (this club also formerly contributed), and "The Columbia Photographic Society," of Philadelphia.

Of the new clubs, the St. Lawrence Club was refused admission, because of the inferior technical quality of the slides. The set was composed of interesting subjects which would have made

it a useful one for the Interchange. The Brooklyn Club was suspended until its new quota of slides are received.

The clubs admitted for the new season as a result of the testing, are the Newark Camera Club, Orange Camera Club, Trenton Photographic Society, Frankford Camera Club, Photographic Society of Philadelphia, Columbia Photographic Society of Philadelphia, Bethlehem Photographic Society, Reading Lantern Club, Photographic Section of the Pittsburg Academy of Art and Science, Capital Camera Club, of Washington, D. C., Akron (Ohio) Camera Club, Chicago Society of Amateur Photographers, Colorado Camera Club, Denver, Colorado; Grand Junction (Colorado) Camera Club, San Diego (California) Camera Club, Los Angeles (Cal.) Camera Club, Washington Camera Club, Seattle, Washington; Washington Camera Club, Tacoma, Washington; Montreal (Canada) Camera Club, Toronto (Canada) Camera Club, Minneapolis Camera Club, Buffalo Camera Club, Syracuse Camera Club, Albany Camera Club, Troy Y. M. C. A. Camera Club, Montclair (N. J.) Camera Club, and New Britain (Conn.) Camera Club. The California Camera Club of San Francisco, Cal., has in preparation a set of slides intended to illustrate the city.

The growth of the Interchange is quite marked, the year 1901 showing the largest membership of any previous year. During the coming season, sets of slides are to be received from our esteemed foreign contemporary "Photography" (its 1897 Prize English Slides); the Society of the North of France, from Douai, and from the Holland International Lantern Slide Interchange, through Mr. George Peck, of Amsterdam, Holland, so that in addition to the local sets in circulation, there will be about three sets of foreign slides.

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THE AKRON CAMERA CLUB.—At the last meeting of the Akron Camera Club, the principal subject on the programme was a talk on Christmas cards, by Miss Maggie Mitchell. She illustrated her

remarks with a beautiful calendar of four cards, each containing a platinum print representing one of the four seasons, and decorated with hand-painted flowers, artistically arranged around the picture. On each card, space was left for three months of the calendar. Miss Mitchell explained that if one is not skillful with the brush, the card could be made by mounting a series of pictures on a large card representing scenes familiar to the recipient of the gift. For illustration—a country homestead for centerpiece; around it arrange the old well, the sheep in the lane, a favorite corner of the interior, and pin on the card a spray of fern, a bit of ivy from the porch, or a few wild flowers. When these materials have been tastefully arranged on the large card, they can be photographed down to proper size, and the print made from the negative for the Christmas card. Another suggestion by Miss Mitchell was for a card suitable to a newly married couple, consisting of their wedding coach, church in which they were married, old shoe decorations, etc.

Our club feels honored because of the fact that two of its members, Mr. J. Dwight Palmer and Mrs. Geo. F. Kunz, succeeded in gaining admission of their pictures to the Philadelphia Salon. Mr. Palmer had three pictures hung—Roses, Wayside Brook, and A Quiet Evening; Mr. Kunz, two—Evening, and Under the Maples. The standard was placed very high this year, and Messrs. Palmer and Kunz are to be congratulated upon their success.

* * *

THE CAMERA CLUB OF NEW YORK.

The regular monthly meeting of the club occurred on Tuesday evening, November 12th, President Aspinwall in the chair. Only routine business was considered, except some discussion took place on the activities of the club and the creation of a special membership class. This it was thought would be the subject of a special meeting in the near future. The club voted to enter the American Lantern Slide Interchange for 1902, and elected Mr. Alfred Simpson lantern slide director to represent it. Mr. Alfred Stieglitz exhibited samples of improved imported platinum paper called the "Jacobi," which he said was of German make, and possessed the quality of producing beautiful Van Dyke brown prints; it was especially

good for broad effects, and was made, he thought, by a mixture of palladium with the platinum. On this account, the expense was about a third more than the regular platinum paper, but the simplicity of working and the results obtained were worth the additional cost. The usual cold oxalate developer, acidified with oxalic acid, is used. The prints shown were well regarded by those present. He remarked that the German manufacturer was very accommodating, as he would coat any kind of paper (rough or smooth, thick or thin) for those desiring to produce special kinds of prints.

The print committee had on exhibition on the walls a large display of prints, illustrating mountain scenery along the Canadian Pacific Railway by Miss Vaux, Geo. Vaux, Jr., and William S. Vaux, Jr., of Philadelphia, and Arthur E. Becher, of Milwaukee, had a display of portraits and other effects which Mr. Stieglitz regarded as highly promising. Mr. Becher is a young Western artist of ability.

* * *

BROOKLYN Y. M. C. A. CAMERA CLUB.

—This is one of the most active of the Camera Clubs that are now a feature of Young Men's Christian Association work over the country. The Brooklyn (Central) Club has about 40 members, Mr. Wm. H. Lowery being president and Mr. Adolph Grosser secretary. The club is represented in the American Lantern Slide Interchange by a set of slides far above the ordinary. At the recent jubilee convention of the Y. M. C. A. in Boston the Central Club won first prize for its exhibit of lantern slides.

* * *

Y. M. C. A. work, carefully arranged and ably conducted, has proved a great stimulus to working young men in directing their thoughts to self-culture and to higher mental attainments. It is easy to believe that thousands of young men occupy good positions which they never could have attained but for the evening classes of the Young Men's Christian Associations. Moreover, in addition to its evening schools and social clubs, the Association wields a powerful educational leverage in its libraries and reading rooms. In no way probably could the Young Men's Christian Association have so completely demonstrated its usefulness as by thus becoming a great educational institution without laying aside its religious motive.

Our Portfolio.

Communications for the editors, pictures for criticism (only one print at a time), and apparatus and material for examination, should be sent to Dr. John Nicol, Tioga Centre, N. Y.

1338. MINNIE J. CURTIES.—“Madison Lake” is a pretty little photograph that might have been a good deal better. The photography, so far as it goes, is fairly good, but it would have been better to have allowed us to walk round the end of the lake, instead of stopping us at the corner on the left. Then, the focusing has been on the distance, making it as sharp as a needle, while the foreground is in a haze, just the reverse of what it should have been. The subject is well chosen, but until you get a much larger camera, you should be content to include a great deal less in your pictures.

1339. F. S. KEILER.—“Along the Little Scioto” appears to be the corner of a lake with a pretty high bank on which are two tallish trees and in the foreground a boy pretending to be fishing. Technically, the photography is flat, wanting in contrast, probably from having stopped development a little too soon. Then, the pose of the boy, and the evident sham of fishing are two serious mistakes. The repetition of lines without contrast is always weakening, and the boy, unpleasantly to us at least, repeats the lines of the trees, while such makebeliefs as is indicated by the crooked branch as a fishing-rod is a disturbing factor in what without it might have been taken for a serious purpose. With a little more contrast, and without the boy, this would be a very good thing.

1340. RICHARD F. FOOTE.—“The Strollers,” two ladies in walking costume, one of whom carries something over her shoulder that may be intended to represent a parasol, although there is hardly anything but the stick to suggest it, is carrying eccentricity just a little too far. The mount is square, with a long narrow oval, which the print has been cut to fit. But the oval is both shorter and narrower than the amount of print you want to include; and instead of being content to trim the print to fit the oval you have “cut out” parasol, and the lower part of one of the dresses so that they come out of the oval intended to include them. This may be originality, but it is of a kind that we

do not like. Properly mounted, the print would have deserved nothing but praise, especially if the negative had got just a little more exposure, so as to give truer values.

1341. A. N. D.—“The Leaf is on the Grass,” etc., is a more than fairly good photograph spoiled by the introduction of a figure where a figure should not have been. No doubt men sometimes sit as this is sitting, down on the grass, with knees drawn up in Eastern fashion; but the pose, under the circumstances, should have been avoided. Quite as objectionable is the place of the figure, immediately under a tall tree. It may be taken almost as a canon of art, that a figure should never be placed under a pronounced vertical object, and especially under such a tree. Here, the eye no sooner catches the face than it rushes up the tree in the vain attempt to find out why he is sitting there, or if it goes first to the top, it comes on him with a rush, that if it was matter, say a cocoanut, would play havoc with the derby. Without the figure, and with about three-quarters of an inch trimmed from the foreground, it would be a very good photograph, and would have been still better if the light had not been quite so much in the front.

1342. W. C. HOLMES.—The unnamed print is, technically, as nearly perfect as it is possible to be, while at the same time, and to a certain extent just because of that, it is without pictorial quality. Foreground and distance are equally sharp without a trace of the atmosphere so essential to a picture; and the two trees of about the same size and at equal distance apart, give it a mechanical look, suggestive of a pair of scales.

1343. G. A. CUSTER.—“The Beginning of a Romance” is an excellent example of pictorial photography of what is now sometimes spoken of as the “Old School,” but a school that will last while some of the more modern effects shall be forgotten; and at the same time a proof that fairly good definition is not inimical to pictorial effect. A gamekeeper with his dog and gun has met

a daughter of the soil on her homeward way through the woods, and evidently has more to say to her than merely the "passing of the time of day." We know that, as a rule, gamekeepers have a good opinion of themselves, but this one would have been more natural differently posed. A humbler attitude would have seemed more like the beginning of a romance, and we should have liked to see a little more indication of the ever necessary atmosphere, a little haze in the distance. In spite of these faults, however, it is really a good picture that we shall have pleasure in reproducing. See page 543.

1344. C. H. WILKINS.—"Wayside Spring." By an unaccounted-for mistake the print noticed under 1306 was substituted for this, which is not only very different, but very much better. It is a good subject that only needed a little more foreground to be very fine. The spring here is very evident, but should not have been quite so close to the bottom. Longer exposure and shorter development would have given truer values.

1345. D. STRICKLAND.—"Mrs. General John C. Fremont" is a fairly good portrait of the professional or straight photography class, but it should have been trimmed to an upright so as to get rid of the out-of-plumb and black window on the left, and the blacker railing on the right. The lighting is also too hard, and would have been improved by a reflector covering the wall and window. The glazed surface is a matter of taste, but we think a matt surface would have been very much better. A shawl or other wrap thrown across the knees so as to cover the rather obtrusive patches of light on the dress would also have wonderfully improved the portrait. The scattering rather than the concentrating of lights is always distracting. The other print in our next. Page 540.

1346. J. B. HILL.—"A Busy Octogenarian." The lighting is much too hard. The figure should have been seated farther from the window, and the exposure long enough to give something other than black behind. As it is, it looks as if it was cut out and pasted on the background. Then, the open window, showing the series of parallel lines of bricks is offensive. Properly arranged, only a part of the window need have been seen, and that covered by the curtain.

1347. E. WILLIAMS.—"A Hazy Autumn Day." The longer we study this, the better we like it, in spite of several serious faults. The selection is good, but the composition would have been better had the camera been turned so as to have cut out the apparently double tree on the left, leaving only the other two, which would have been sufficient to balance those on the right without giving the mechanical effect that is now apparent. Then the "hazy" day would have been better suggested had the foreground been a little better focused and a little more distinct, as in such days the fog causing the haze does not begin to appear till quite a number of yards from the point of view.

1348. HELEN L. GRISWOLD.—"A Winter Day." The absence of human interest makes this much less appealing than your last, the "Teacher," and although it is a good subject, well arranged, the tone is too low, making the snow darker than it could be even in the dulllest day. A slight intensification of the negative might improve it, or the toning down of the white strip that now separates it from the dark mount to a shade half way between the print and the mount would, by contrast, considerably whiten the all too dark snow and sky.

1349. M. IDA EBBERT.—We are sorry we cannot say anything in favor of the portrait. It is simply one of the 99 of 100 snap shots that are a waste of material. The hand camera used in the hand is a valuable instrument, but only in the hands of the experienced photographer. The snapping of which this is the outcome is merely a pastime, and has no claim to be called photography. The figure here fills the plate, and so seems gigantic, the exposure has been far too short and the light too much in front.

1350. T. C. KEYS.—What has been said of 1349 applies equally to this portrait, and if possible, even in a greater degree; the exposure has been so short that everything but the white dress and face is as black as black paper can make it. Until you get a lens of much longer focus, keep your figures to not more than half this size, and give a much longer exposure—long enough to represent objects in something like their natural tones.

1351. F. E. FOSTER.—"Old Companions," an old woman at the spinning

wheel, has both good and bad qualities. The trimming to an oval suggests a want of stability, a feeling that it might rock on the more prominent leg of the wheel, the series of parallel lines in the background could have easily been avoided, and with great advantage, while exposure and development have united in giving very false values. The wood of the wheel is as white as the apron and kerchief, and in neither is there a trace of the shades that give such a charm to white drapery and without which it is little short of failure. Then the band that drives the spindle is buried in the over-developed apron, suggesting, especially with the wheel so well defined, rest as opposed to motion. For a subject of this kind deferential focusing should have made the wheel sufficiently indistinct to give the feeling of motion. In spite of these faults, all of which could have easily been avoided, the picture appeals to us in a way that few do, and sends us back to the days when there was a wheel in almost every house, and when few girls would have listened to the voice of the charmer until they had spun and got woven

"Twa wabs o' linen o' Janet's ain spinnin',
As thick as dog's lugs an' as white as the
snaw."

1352. W. G. HELWIG.—"The Smoker," but for one little oversight, would have deserved our unqualified praise. A young man is preparing to light a cigarette, and protecting the flame of the match with his hands in the well-known way. The intention was doubtless to suggest the idea of local lighting, but as it is, the flame from the match has no effect, the lighting evidently coming from outside, and, while concentrated on the face and shirt-front, is spread all over the figure; and on the back of the hands, which should have been in shade, it is as high as on the face. To secure the desired effect, local reduction of the hands and the lower parts of the figure is all that is required. Page 548.

1353. W. B. CARTER.—"At Ease." You have been at considerable trouble to spoil what without it would probably have been a charming little picture. The mother is probably more to blame than you for so dressing up the pretty child, especially with the mass of ribbon on

its head, as not only to take away all appearance of ease, but also to make one wonder what kind of a gigantic butterfly had settled on it; but you are to blame for giving her the appearance of having been sent into the world without legs, making a triangle of her chubby arms, and giving an exposure so short that everything except the dress, arms and face is simply blackened paper. Never try to pose a child, it can do that much better itself, and never let it be dressed for the purpose; and, above all, never disfigure its head with a distracting mass, as in this case, over two-thirds as large as the pretty face.

1354. W. H. STANCHFIELD.—"October Woods" was worth waiting and going some distance for, but, good as it is, it might easily have been better. It is a fine subject, beautiful in its simplicity, but there is a lack of atmosphere, and the values are far from true, as instead of the tone rising as the haze thickens by distance, the trees become darker and darker. Then, the leaf-covered foreground, the lightest tint of which should be a russet, is here largely represented by scattered lights as light if not lighter than the sky. Both false values and scattered lights are due to under exposure and consequent over development. Half as long again might have given a very different result.

1355. W. H. BLACAR.—The unnamed print has several good qualities that make it probably the best that you have as yet sent, but there is still room for improvement. The sky line is too low, giving a much too large proportion of sky, even although it does contain clouds. Then, the values are still far from true, probably from under exposure, as, although you say the aperture was $f/16$, it was more likely $f/32$, the single lens of the plastigmat having been employed. A careful examination will show that wherever direct light has fallen, development has resulted in absolute white, while all in the shade is equally black. You cannot get true values unless you give sufficient exposure. In spite of its faults, however, we like the little picture, and it could be improved by reducing the sky and water so that they will print to tones considerably lower than they are in this, and so will better convey the idea of an overcast afternoon. Page 554.

Our Table.

Books for review and apparatus and material for examination and report should be sent to Dr. John Nicol, Tioga Centre, N. Y.

AUTOMATOL is a new developer advertised. If it does only one-half what the maker claims, it is well worth a trial.

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THE OPTICAL MAGIC LANTERN JOURNAL.—We are glad to welcome this always interesting record of the lantern world which will in future appear only during the lantern season.

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PREMO CAMERAS are and will be standard goods. The Rochester Optical Co. have absorbed new blood into their concern, and new ideas and a new policy is the result. Their products, always of the highest order, are fitted with all the latest devices, and give the best satisfaction. Shoddy cameras have been responsible for many giving up the art in disgust. We wot not of any one turning aside who started out with the Premo camera. The policy of the concern for the ensuing year will be to check over-production, advance the standard of quality, and maintain prices. This course is to be recommended to the makers of all photographic goods.

* * *

THE PHOTO-MINIATURE continues its course with unabated vigor, striking the nail on the head every time, and giving less pleasure to those who take pleasure in fault finding than any periodical that we know. This time it deals with "Photographing Interiors," and in its usual instructive way; especially in its caution against the employment of the "wild-eyed" wide angle lens so generally recommended for that kind of work. The photographer desirous of becoming an interior specialist cannot do better than follow the teaching of this number, but he must learn how to get better values by giving a longer exposure than was given to the "Fifth Avenue Interior," opposite page 246.

* * *

"KODAKS FOR CHRISTMAS," is the title of another handsome booklet issued by the Eastman Kodak Co., and free of all dealers. Besides listing the regular

line of Folding Pocket Kodaks, Bullets, Bull's-Eyes and Cartridge Kodaks, there is a new No. 3 Folding Pocket Kodak de Luxe. This camera combines the highest optical and mechanical qualities with the richest design and finish. It should please the fancy of even those connoisseurs in cameras, the Shah of Persia or the Sultan of Morocco, for its covering is of selected Persian morocco, a leather with a beautiful natural pattern and varying shades of color. The bellows are lined with brown silk, and the metal parts highly finished. This camera is supplied with the famous No. 1 Plastigmat lens, but other lenses may be substituted to order. The Folding Pocket Kodak has been the camera of the year, and is likely to remain so. The line in price now extends from \$10 to \$75, to please the most fastidious.

* * *

THE BLAIR CAMERA Co., Rochester, N. Y., are well to the front with a fine line of cameras for the holiday trade. Their Folding Weno Hawkeye, made in several sizes, is well made, serviceable, and is an instrument that would make a handsome and useful Christmas present. This firm has just issued a new catalogue of their cameras, which shows a line fully up to the high standard they have always maintained. The catalogue is free for the asking from themselves or of your dealer.

* * *

G. GENNERT, 24-26 East 13th Street, New York, has issued a new 1901-2 catalogue, of 176 pages. Besides listing all goods of their own manufacture, it comprehends the products of many other manufacturers whom he represents. Particularly complete are the lens and shutter departments, including Ross & Collinear lenses, the line of Montauk hand cameras, the dark room accessories including trays, wash boxes, and many novelties: the list of chemicals, especially the developers of J. Hauff & Co. and finally the assortment of Elliott Carbon papers and H. & C. gum-bichromate papers. A copy is mailed to any address on receipt of 10 cents to cover postage.

A very clever idea has also been put out by G. Gennert, viz.: the Stevens trimming board. This board, at present made in one size only, for prints up to $6\frac{1}{2} \times 8\frac{1}{2}$, has a swinging knife of novel construction, which is in constant contact with the cutting edge, and yields a clean, clear cut besides being self-sharpening.

Another novel feature is a ruled transparent sheet attached to the board, and covering the print so that the trim of the print may be arranged parallel to any desired line of the print.

* * *

IMPERIAL LANTERN SLIDE PLATES.—Mr. Gennert is also wholesale and retail agent for Imperial Plates. These have not been offered before in this country. While our own American plates are of excellent quality, English plates are so highly praised that many will be glad of this opportunity of trying a brand which in England has the reputation of being the best. Price, same as American plates, 55 cents.

BOFLAY.

This new developing and fixing solution, noticed in our November number, has now been put to the test of practical work, and found to answer the purpose admirably, the one thing essential for good results being something like a correct exposure. We confess to some doubt at first as to whether we should trust it with some exposures made during the summer, and which we had planned to use as illustrations in the Girard circular for next season; but the success that fol-

lowed the development of several of less importance gave us confidence, and the three subsequently developed by it are in every respect equal to those developed in our ordinary way and with all the care that we know how to take.

It is a comfort to put a plate into the solution, give the dish a rock and put it on the rocker, and return after ten minutes to find a negative ready for the washing-box; and that is just what may be done every time, and with perfect confidence, *provided the exposure has been about right*. Nor is the caution implied in the latter part of the last sentence a fault, but rather a virtue. Readers of "Our Portfolio" know that the besetting sin of a majority of those who take advantage of it is under exposure, and we know of nothing better than to develop with Boflay, as a cure for that fatal fault.

We have not considered Boflay from an economical point of view, but the makers claim that from a six-ounce bottle, costing sixty cents, six dozen 4×5 plates may be developed, and if that be so, it cannot be found fault with on account of cost.

THE CENTURY ULTRA-GRAND.

What is claimed by the makers to be the finest camera in the world, is the Century Ultra-Grand, made by the Century Camera Co., Rochester, N. Y. We read of the Sultan of Morocco and his $\frac{1}{4}$ -plate 18 carat gold camera, at \$10,500, and his $\frac{1}{2}$ -plate silver camera, at \$4,500, made to his order by Adams & Co., of London, and mourn that we cannot all be sultans. We can all be good American citizens, however, and do not need to cross the water to possess the best camera for practical work and unexcelled for beauty of construction. The new Century Ultra-Grand is the same model as the Century Grand, only that it is made of more select material, has satin bellows, mahogany holders, silk velvet lined case, and all the metal parts of the camera and case are silver plated. While quality of camera does not imply quality in the picture, those who can afford the best and desire to possess an elegant instrument, should look into the merits of the Ultra-Grand. We understand that the 4×5 size lists around \$125, including six holders, case, diaphragm shutter and Plastigmat, Collinear or Goerz lens.

Letters to the Editor.

Correspondents are requested to notice that communications intended for the editors should be addressed to Dr. John Nicol, Tioga Centre, N. Y.

Communications are solicited from our readers on any subject of interest. A mutual interchange of ideas contributes to general advancement.

Halation.

DEAR SIRs: My experience in photographing interiors has been such as to lead me to discredit the recognized theory of halation, and knowing that the subject is of interest to your readers, I would be greatly obliged if you would favor me with a discussion of the following points through the columns of your valuable paper.

In the first place—how do you account for the fact that there is just as much halation when using a small stop as when using a large one? Theoretically this should be a cure for it, because, as everyone knows, the gelatine film of a dry plate is not transparent, but merely translucent, and that only slightly, even in a moderately strong light. Now, supposing the light is cut down by using diaphragm $f/64$ or smaller. The film becomes opaque in so weak a light, and we can surely have no reflection from the back of the plate if the light does not pass through the film. And yet practical experience shows that the halation is undiminished under these circumstances.

Furthermore, how do you account for halation in the centre of the plate? According to my experience, a window in the middle of the plate will show just as much fog as one in the corner, sometimes more. Now, granting, for the sake of making the argument clearer, that the film is perfectly transparent, which, of course, is not the case, the rays of light forming the margin or outline of a small window would pass through the film and encounter the back surface of the plate at an angle of 90 degrees (approximately) provided the focus of the lense is not too short. Now, the angle of reflection being equal to the angle of incidence, they would return along a path which for all practical purposes may be said to coincide with the original one. Also, inasmuch as the incident rays strike the plate at an approximate right angle, there will be practically no

refraction. How, then, can the returning light fog the surrounding portions of the plate? Even in the case of a window in the extreme corner of the plate, I do not see how this theory can account for more than a very small part of the usual fog. It is often noticeable for a distance of $\frac{3}{8}$ or $\frac{1}{2}$ inch, and even if the angle of incidence were very nearly a right angle, the glass is so thin that it could not be dispersed to a distance of more than $\frac{1}{8}$ of an inch by reflection from the back. Hardly this much, because in this case the refraction of the glass, being in the opposite direction, would tend to decrease the total divergence. Furthermore, what divergence actually occurred would manifest itself on the side toward the outer edge of the plate only.

It seems to me that this is a subject that will admit of a great deal more investigation than it has so far received. According to my experience, the alleged remedies, such as non-halation backing and double-coated plates which are put upon the market are not remedies at all. Would not an excellent test be to coat a stripping emulsion on a sheet of ground ebonite, expose, strip off and develop? This, I should think, would settle the matter once and for all.

Yours truly,

CHESTER W. LARNER.

[Tests similar to that suggested by our correspondent have frequently been made, with the result that, while reflection from the back is a cause, and probably the most prominent cause of halation, it is not the only cause; and consequently, while suitable backing is to a very large extent ameliorative, it does not altogether and under all circumstances prevent it.

Halation is a subject on which there is still room for considerable discussion, and we shall return to it in the near future; but in the meantime shall be glad to print the opinions of as many of our readers as care to tackle the question.—Eds.]

Portfolio Criticism.

TO THE READERS OF THE "PORTFOLIO":

I want to say a few words in its favor. It has done lots of good in the past, but I notice that the number of prints sent for criticism appears to be dropping off, and I think we *all* had better brace up and send along a goodly number, as we benefit quite as much by the successes and mistakes of others as by our own. And, too, let us send our *best* work, as it is just *there* that we need the criticism most, and where it will do us the most good. Of course if we are too thin-skinned to sign our names, we can use initials, but I would advise signing our full names and getting up courage to hear our failures and mistakes spoken out in "meetin'" without flinching.

I think that everyone who has had good sharp criticism either in the "Portfolio" or elsewhere, must confess that they are doing better work on account of it. I know that it is so in my case.

Criticism is not pleasant to take by anyone, as we all realize. I have tried

it on Dr. Nicol a few times, and find that he doesn't like it a bit better than we do, but I think it did him *some* good—not a great deal. Then let us remember that, as he has often said, he is only one man, and not infallible; and if he bears on us too hard, we can make remarks about his being an old mossback, and a crank, and various other unpleasant things, but,—I think that the outcome of it all will be that there will be better photographs in the world.

WILLIAM H. BLACAR.

[While agreeing with our correspondent in the main, we must demur to the statement that we don't like criticism. We like to "See oursels as ithers see us," and value those readers most who most frequently write to us, and that equally whether with approval or finding fault, but especially when the writing contains suggestions as to how to increase the usefulness of this magazine. Come on, then; come all, and we promise you what cheers the heart of the preacher, "a patient hearing."—EDS.]

Answers to Correspondents.

Correspondents are requested to notice that communications intended for the editors should be addressed to Dr. John Nicol, Tioga Centre, N. Y.

W. R. TERRY.—We do not decide bets, but if we did, we should hold that you are both wrong, and hand the money to some charitable institution. Speaking from an optical point of view, the angle of view depends entirely on the relation of the focus of the lens to the base line of the plate, and is not in any way affected by the stop. *e.g.* With a lens the focus of which is once and a half the length of the base line of the plate, $10\frac{1}{2}$, say, on a 7×5 , the angle will be 8° , no matter what size of stop be employed. On the other hand, and from a photographer's point of view, a small stop may enable the lens to cover a much larger plate, say 12×10 , when the angle will be about 60° ; but in this case the lens has been in no way affected, only the space over which the image extends has been increased.

L. W. HUNTER.—The developing factor for ortol is 10, and the 15 you have

been using, will account for the contrast, if you are sure that you have not been under exposing. For timing all sorts of operations where seconds are required, we employ a pendulum, a bullet at the end of 39 inches of string, the other end being fastened to a screw-eye in the ceiling. To the bullet is fastened a few links of small chain, which strikes an empty potted meat-tin each swing, so that we can count the seconds without seeing the pendulum.

ALICE TOMPKINS.—There should be little difficulty in creating a market for good cloud negatives, especially if on transparent film. We should recommend making positives by contact on carbon tissue, and from them negatives by copying in the camera, and on the film; reducing and enlarging to the sizes most wanted. With a few good samples in hand, there should be little difficulty in getting orders from the

stock dealers. If you decide to go in for the work, we shall gladly send you a working drawing, from which your handy brother can make the camera required for copying.

RALPH S. MARTIN.—Watkins' formula for actinometer test-paper is as good as anything we have used. Ordinary bromide paper, such as is used for enlarging, is soaked for five minutes in a ten per cent. solution of potassium nitrite, in the dark of course, and dried. With this paper in your Wynne's meter, and following the instruction on pages 402-3 of our September number, you will have no difficulty in finding the speed numbers of all the plates you care to employ; and although the test-paper may not color to the exact shade of the test-color on the meter, by following our example, and carrying in your pocket a piece of pale blue glass with which to cover both while making the test, you will see at a glance just when to stop.

GEO. HORTON.—The yellow stain on the negative is caused by insufficient fixing, the plate having been removed from the fixing solution too soon after the white silver bromide had disappeared. We know of nothing that will remove the stain without also destroying the image.

L. H. BARRY.—The figures on the mount have nothing to do with the focal length, nor can we tell anything about it without seeing it. Focus on some distant object and measure the distance between the plate and the stop slot in the mount—that will be near enough for your purpose.

SNAPPER.—From your description the object nearest the focus must be about fifteen feet, and unless the head is at or beyond that it cannot be in focus. A supplementary lens to shorten the focus would help, but you cannot get the kind of definition you want till you get a suitable camera, one that you can focus the image at whatever distance you desire, or rather of whatever size you want the head. Such cameras as that you now employ are little better than toys, although an experienced photographer may with them do very good work. One of the best portraits in our collection was made with an old "burning glass" about three inches in diameter, and an old fancy soap box.

WILL. S. RATTRAY.—What is the matter with the formula recommended by

the maker? You may depend upon it that the fault lies with your manipulation, and not with the developer, although almost any one of the various developers used by the average photographer would do as well.

PUZZLED.—The dealer that says the lens in question is twice as fast, stop and conditions being equal, either knows nothing about lenses or is trying to deceive you. Practically the only thing that makes one lens faster than another is that it works at a larger aperture. The anastigmat working at $f/5.656$ is twice as fast as an ordinary rectilinear at $f/8$, but when the former is stopped down to the same aperture its speed is exactly the same.

FANNY JARDINE.—You are not at liberty, even when they are for private exhibition, to copy the engravings in the book for lantern slides, but a request to the publisher would probably secure permission. The slides are very good and would have been still better of a longer exposure and shorter development. Don't be afraid of a trace of fog, and see that your highest lights allow at least some of the light to pass to the screen.

CAMERA CRANK.—Thanks for your good opinion, but we do not care to print letters flattering us, although we have no objection to print such as find fault. Thanks, also, for your flattering suggestion. It has been made many times, and some time when we are more than usually pleased with ourself we may occupy the suggested position, following it up with pictures of the little hamlet and its surroundings in which our lot has for the last decade been cast.

S. H. LAMBERT.—It is contrary to rule to give the addresses of our correspondents, but letters sent to us under cover are promptly forwarded. We cannot give permission to reproduce such of the illustrations as appear in the magazine and have been noticed in the "Portfolio," but if you get the author's permission we have no doubt that arrangements could be made with our publishers for the use of the block.

J. W. FLEMING.—The best way to convince yourself of your error is to back one-half of a slide plate, and expose and develop it. If the manipulation has been such as to give a good slide, you will never again willingly use an unbacked slide plate.

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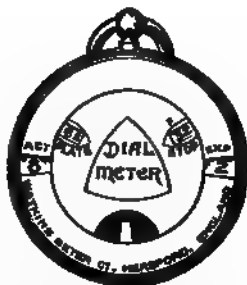
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THE AMERICAN AMATEUR PHOTOGRAPHER.

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